UNIVERSITY OF MICHIGAN
SEP 5 1967
MEDICAL LIBRARY

Index to Volume 103

The Biochemical Journal

Editorial Board

W. N. Aldridge (Chairman)
H. Gutfreund (Deputy Chairman)
V. P. Whittaker (Deputy Chairman)
J. R. Quayle (Deputy Chairman)
J. L. Bailey
R. V. Brooks
R. H. Burdon
R. A. Cox
M. J. Crumpton
D. F. Elliott
J. R. S. Fincham
J. N. Hawthorne
J. R. Knowles
P. N. Magee
D. J. Manners
J. H. Moore
C. J. O. R. Morris
I. H. M. Muir
C. A. Pasternak
A. R. Peacocke
H. R. Perkins
R. R. Porter
E. R. Redfearn
D. N. Rhodes
D. S. Robinson
D. B. Roodyn
R. E. Strange
J. R. Tata
P. K. Tubbs
D. G. Walker

Secretary to the Board: **F. Clark**

The Biochemical Society

Price 3s. 6d. net (U.S.A. 50 cents)

THE BIOCHEMICAL SOCIETY

OFFICERS AND COMMITTEE, 1966–67

Chairman of the Committee
A. NEUBERGER

Treasurer
W. F. J. CUTHBERTSON*

Committee Secretary
H. R. V. ARNSTEIN*

Meetings Secretary
K. S. DODGSON*

International Secretary
W. J. WHELAN*

Committee

W. N. ALDRIDGE*†
J. BADDILEY
G. R. BARKER
D. N. BARON*§
R. V. BROOKS*†
S. R. ELSDEN
D. F. EVERED
T. W. GOODWIN‡‖
P. T. GRANT
H. GUTFREUND*†
B. S. HARTLEY
G. A. D. HASLEWOOD
A. T. JAMES
H. L. KORNBERG
R. M. S. SMELLIE
B. SPENCER
R. H. S. THOMPSON‖

* *Ex-officio* Member of Committee. ‡ Symposium Organizer. ‖ Co-opted Member of Committee.
† Representative of Editorial Board of the *Biochemical Journal*.
§ Representative of Editorial Board of *Clinical Science*.

The Biochemical Society exists to advance the science of biochemistry through meetings and publications. About 10 meetings a year are held, each at a different place; original papers are presented and special topics are discussed at symposia and colloquia.

Persons interested in biochemistry are eligible for election as Members. Members receive the *Biochemical Journal* without further payment. Details of facilities accorded to Members, and forms of application for membership, are available from the Executive Secretary, Mr A. I. P. Henton, The Biochemical Society, 20 Park Crescent, London, W.1 (01–580 9849).

The *Biochemical Journal* is published by The Biochemical Society and distributed for the Society by The Chemical Society. The *Journal* is issued in four volumes a year, published in three parts at intervals of one month. The index for each volume is issued separately, usually with the second part of the succeeding volume.

Subscriptions to the *Biochemical Journal*. For non-members of The Biochemical Society the subscription to the *Journal* is £27. 10s. per year (£6. 17s. 6d. per volume); for non-members in the United States of America the subscription is $77 per year ($19.25 per volume). All subscriptions are payable in advance and should be sent to The Publications Sales Officer, The Chemical Society, Burlington House, Piccadilly, London, W.1.

Claims about issues lost or damaged in transit should be made to The Publications Sales Officer, The Chemical Society, Burlington House, Piccadilly, London, W.1, and will not be entertained if they are received later than three months after the date of posting of the *Journal*.

Back Numbers. Enquiries for volumes 1–19 should be addressed to William Dawson & Sons Ltd., Back Issues Department, 16 West Street, Farnham, Surrey. Quotations for available issues of subsequent volumes and parts may be obtained on application to Walter J. Johnson Ltd., Berkeley Square House, Berkeley Square, London, W.1, or to The Chemical Society.

Advertisements. Applications for advertising space should be sent to Mr R. Warden, Aldridge Press Ltd., Carolyn House, Dingwall Road, Croydon, Surrey.

Index of Authors

Note. Short Communications are distinguished by C. Pages in *Proceedings of The Biochemical Society* are distinguished by P.

Abou-el-Makarem, M. M., Millburn, P., Smith, R. L. & Williams, R. T. Differences in the biliary excretion of succinylsulphathiazole in the rat and rabbit 25P

Abraham, E. P. *see* Kuwabara, S. 27C; Smith, B. 877; Warren, S. C. 891, 902

Adinolfi, A. *see* Ruffo, A. 19

Akhtar, M., Hunt, P. F. & Parvez, M. A. The transfer of hydrogen from C-24 to C-25 in ergosterol biosynthesis 616

Annison, E. F. *see* Linzell, J. L. 42P

Anthony, C. & Zatman, L. J. The prosthetic group of the alcohol dehydrogenase of *Pseudomonas* sp. M27; a new oxidoreductase prosthetic group 19P

Armstrong, M. & Webb, M. The reversal of phenylarsenoxide inhibition of keto acid oxidation in mitochondrial and bacterial suspensions by lipoic acid and other disulphides 913

Arrhenius, E. *see* Smuckler, E. A. 55

Asp, N. G. *see* Dahlqvist, A. 86

Atassi, M. Z. Immunochemistry of sperm-whale myoglobins prepared with various modified porphyrins and metalloporphyrins 29

Audley, B. G. *see* Whittle, K. J. 21C

Avi-dor, Y. *see* Cavari, B. Z. 601

Bailey, E., Taylor, C. B. & Bartley, W. Liver enzyme changes in the developing rat 78P

Bailey, E. *see also* Bartley, W. 550

Balazs, E. A. *see* Lloyd, A. G. 75P, 76P

Barber, H. E., Welch, B. L. & Mackay, D. The use of the logarithmic transformation in the calculation of the transport parameters of a system that obeys Michaelis–Menten kinetics 251

Barker, G. R. & Hollinshead, J. A. The degradation of ribonucleic acid in the cotyledons of *Pisum arvense* 230

Barnes, M. McC. *see* Lee, D. J. W. 30P

Barnett, J. E. G., Jarvis, W. T. S. & Munday, K. A. Enzymic hydrolysis of the carbon–fluorine bond of α-D-glucosyl fluoride by rat intestinal mucosa. Localization of intestinal maltase 699

Bartley, W., Dean, B., Taylor, C. B. & Bailey, E. The effect on some enzymes of rat tissue of diets low in fat content 550

Bartley, W. *see also* Bailey, E. 78P

Beale, D. A partial amino acid sequence for sheep haemoglobin A 129

Beary, M. E. Steroid metabolism in carbon tetrachloride-induced liver damage 54P

Bellis, D. M., Spring, M. S. & Stoker, J. R. The biosynthesis of dicoumarol 202

Benedetti, E. L. *see* Bloemendal, H. 177

Bennett, D. J. *see* Creaser, E. H. 36

Bergel, F. *see* Ohnuma, T. 238

Biesold, D. & Teichgräber, P. Activation and solubilization of particle-bound hexokinase in rat brain 13C

Binning, A., Darby, F. J., Heenan, M. P. & Smith, J. N. The conjugation of phenols with phosphate in grass grubs and flies 42

Blakley, R. L. *see* Hogenkamp, H. P. C. 5C

Blaschko, H., Smith, A. D., Winkler, H., van den Bosch, H. & van Deenen, L. L. M. Acid phospholipase A in lysosomes of the bovine adrenal medulla 30C

Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L. Isolation and properties of polyribosomes and fragments of the endoplasmic reticulum from rat liver 177

Bloom, G. D. *see* Lloyd, A. G. 75P, 76P

Bonner, W. D., jun. *see* Harmey, M. A. 42P

Bont, W. S. *see* Bloemendal, H. 177

Booth, J., Boyland, E. & Cooling, C. The respiration of human liver tissue 72P

Booth, R. & Glover, J. Inhibition of cholesterol absorption by 'foreign' sterol 29P

Bowness, J. M. & Lee, K. H. Effects of chondroitin sulphates on mineralization *in vitro* 382

Bowyer, D. E., Howard, A. N. & Gresham, G. A. Lipid synthesis in perfused normal and atherosclerotic rabbit aortas 54P

Boyd, G. S. *see* Mitton, J. R. 17P; Simpson, E. R. 17P; Sulimovici, S. 16P

Boyland, E. Hydroxylation of foreign aromatic compounds by mammalian systems 1P

Boyland, E. *see also* Booth, J. 72P

Bramwell, M. E. & Harris, H. The origin of the polydispersity in sedimentation patterns of rapidly labelled nuclear ribonucleic acid 816

Bray, R. C. *see* Johnson, C. E. 10C; Ohnuma, T. 238

Bridges, J. W., Walker, S. R. & Williams, R. T. N^1-Glucuronide formation in primates given sulphamethomidine 23P

Britton, G. *see* Rees, H. H. 52P

Britton, H. G. The long pore effect in an enzyme: evidence for donation of phosphate by substrate to the enzyme in the phosphoglucomutase reaction 7P

Brown, A. D. & Netschey, A. Sedimentation, viscosity and partial specific volumes of membrane proteins and lipoproteins 24

Brown, B. D. *see* Brunngraber, E. G. 65, 73

Brown, G. L. *see* Lee, S. 25C

Brown, J. R., Kauffman, D. L. & Hartley, B. S. The primary structure of porcine pancreatic elastase. The *N*-terminus and disulphide bridges 497

Brown, W. J. *see* Verity, M. A. 375

Brownlow, E. K. & Gammack, D. B. Adenosine triphosphate–creatine phosphotransferase isoenzymes in ox cerebral cortex 47P

Brownson, C. *see* Hogenkamp, H. P. C. 5C

Brunngraber, E. G. & Brown, B. D. Preparation and properties of sialomucopolysaccharides obtained from rat brain 65

Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D. The distribution of protein-bound *N*-acetylneuraminic acid in subcellular fractions of rat brain 73

Burdon, R. H., Martin, B. T. & Lal, B. M. Molecular processes involved in the maturation of mammalian-cell transfer ribonucleic acid 69P

Burke, D. C. *see* Skehel, J. J. 71P

Butler, P. J. G., Harris, J. I., Hartley, B. S. & Lebeman, R. Reversible blocking of peptide amino groups by maleic anhydride 78P

Butler, T. M. *see* Kinsella, P. V. 47P

Caffrey, P. J. *see* Kinsella, P. V. 47P

Cain, R. B. *see* Tranter, E. K. 22P

Callely, A. G. & Fuller, R. C. Carboxylic acid cycle enzymes in *Chloropseudomonas ethylicum* 74P

CAMA, H. R. *see* JOHN, K. V. 539, 544
CAMPBELL, P. N., LOWE, E. & SERCK-HANSSEN, G. Protein synthesis by microsomal particles from regenerating rat liver 280
CANDY, D. J. Occurrence and metabolism of *scyllo*inositol in the locust 666
CANNON, M. & RICHARDS, E. G. Electrophoresis in polyacrylamide gels of different 'soluble' ribonucleic acid preparations from *Escherichia coli* 23C
CARR, N. G. *see* CRAIG, I. W. 64P
CAVARI, B. Z., AVI-DOR, Y. & GROSSOWICZ, N. Effect of carbonyl cyanide *m*-chlorophenylhydrazone on respiration and respiration-dependent phosphorylation in *Escherichia coli* 601
CHAMBERLAIN, E. M., CHAPMAN, P. J. & DAGLEY, S. A sequence of hydroxylations during the metabolism of thymol 18P
CHANCE, B. The reactivity of haemoproteins and cytochromes. The second Keilin Memorial Lecture 1
CHAPMAN, J. M. & EDELMAN, J. The effect of aging of plant storage-tissue disks on protein synthesis by a cell-free fraction 68P
CHAPMAN, P. J. & DUGGLEBY, R. G. Dicarboxylic acid catabolism by bacteria 7C
CHAPMAN, P. J. *see also* CHAMBERLAIN, E. M. 18P
CHESTER, V. E. Effect of some growth conditions on the carbohydrate composition of a glycogen-deficient yeast mutant 55P
CLAMP, J. R. & PUTNAM, F. W. Glycopeptides of immunoglobulins. Investigations on IgA myeloma globulins 225
CLAMP, J. R. *see also* DAWSON, G. 5P
CLARK, A. G., DARBY, F. J. & SMITH, J. N. Species differences in the inhibition of glutathione *S*-aryltransferase by phthaleins and dicarboxylic acids 49
CLIFFORD, J. I. & REES, K. R. The interaction of aflatoxins with purines and purine nucleosides 467
CLIFFORD, J. I., REES, K. R. & STEVENS, M. E. M. The effect of the aflatoxins B_1,G_1 and G_2 on protein and nucleic acid synthesis in rat liver 258
COCKING, E. C. *see* DELEO, P. 9P; POJNAR, E. 74P
COLE, J. A. *see* WIMPENNY, J. W. T. 20P
CONCHIE, J., GELMAN, A. L. & LEVVY, G. A. Inhibition of glycosidases by aldonolactones of corresponding configuration. The C-4- and C-6-specificity of β-glucosidase and β-galactosidase 609
CONVY, S. & WYNN, C. H. The action of semicarbazide on the aggregation of the tropocollagen macromolecule 413
CONWAY, E. J. *see* HERLIHY, E. 46P
COOLING, C. *see* BOOTH, J. 72P
CORFIELD, M. C. & WOOD, C. The formation of lysinoalanine during the treatment of wool with alkali 15C
COUGHLAN, M. P. *see* WINDER, F. G. 59P, 67P
COULSON, W. F., WARDLE, E. & JEPSON, J. B. Studies on the inhibition of phenylalanine 4-hydroxylase and tryptophan 5-hydroxylase of rat liver 15P
COUTTS, J. R. T. & STANSFIELD, D. A. Effect of varying the mode of presentation of sterol ester upon the apparent activity of cholesterol esterase; a pH-stat investigation 55P
COWARD, W. A. & THOMPSON, J. N. Retinol and retinyl esters in rats fed small amounts of retinyl acetate 35P
COX, R. A. & KANAGALINGAM, K. A spectrophotometric study of the secondary structure of ribonucleic acid based on a method for diminishing single-stranded base-'stacking' without affecting multi-helical structures 749
COX, R. A. & KANAGALINGAM, K. A study of the hydrolysis of unfractionated reticulocyte ribosomal ribonucleic acid by pancreatic ribonuclease and its relevance to secondary structure 431
COZZANI, I. *see* ROSA, U. 407
CRAIG, I. W. & CARR, N. G. Ribosomes from the blue–green alga *Anabaena variabilis* 64P
CREASER, E. H., BENNETT, D. J. & DRYSDALE, R. B. The purification and properties of histidinol dehydrogenase from *Neurospora crassa* 36
CROWSHAW, K., JESSUP, S. J. & RAMWELL, P. W. Thin-layer chromatography of 1-dimethylaminonaphthalene-5-sulphonyl derivatives of amino acids present in superfusates of cat cerebral cortex 79
CULLEN, J. *see* KNIVETT, V. A. 299; KNOX, K. W. 192
CURZON, G. The oxidation of *NN*-dimethyl-*p*-phenylenediamine by oxidizing agents and by caeruloplasmin 289
CUTHBERTSON, W. F. J., FLEMING, I. D. & RICE, M. S. Effect of glucamylase on tissue glycogen and tissue glucamylase in the rat 307

DAGLEY, S. *see* CHAMBERLAIN, E. M. 18P
DAHLQVIST, A. & ASP, N. G. Rat small-intestinal β-galactosidases. Influence of pH on the hydrolysis of different substrates 86
DARBY, F. J. *see* BINNING, A. 42; CLARK, A. G. 49
DAVIES, B. H. The identification of carotenoids by their adsorption characteristics 51P
DAWSON, G. & CLAMP, J. R. Oligosaccharide units containing 2-acetamido-2-deoxy-D-galactose *O*-glycosidically linked to serine in an IgA immunoglobulin 5P
DEAN, B. *see* BARTLEY, W. 550
DEKIRMENJIAN, H. *see* BRUNNGRABER, E. G. 73
DELANEY, V. B. & SLATER, T. F. A procedure for the separation of a liver-cell supernatant free of mitochondria and nuclei, enabling rapid sampling for coenzyme and substrate determinations 49P
DELEO, P. & COCKING, E. C. The pinocytic uptake of ferritin by isolated tomato-fruit protoplasts 9P
DE VRIES, M. *see* BLOEMENDAL, H. 177
DEY, P. M. *see* MALHOTRA, O. P. 508, 739
DICKERSON, J. W. T. & SOUTHGATE, D. A. T. The proteins and protein-bound carbohydrates of the serum of the developing pig 493
DINGLE, J. T. *see* MOORE, T. 923
DIPIETRO, D. L., GUTIERREZ-CORREA, J. & THAIDIGSMAN, J. H. Glucose metabolism by human placental villi 246
DIXON, H. B. F. Transamination of a protein in the presence of acetate, glyoxylate and nickel ions 38P
DOWNEY, W. K. *see* WALSH, J. P. 41P
DOYLE, J. The 'lorenzan sulphates'. A new group of vertebrate mucopolysaccharides 325
DOYLE, J. The mantle mucin of *Pecten maximus* (L.) 41P
DRYSDALE, R. B. *see* CREASER, E. H. 36
DUFFUS, J. H. A cell-free system for the study of α-amylase synthesis in barley aleurone layers 215
DUGGAN, P. F. Relaxing factor and the effect of potassium 45P
DUGGAN, P. F., RYAN, B. A. & HARRINGTON, M. G. Magnesium-dependent adenosine triphosphatase activity in light microsomal fractions of muscle 45P
DUGGAN, P. F. *see also* HEFFRON, J. J. A. 46P
DUGGLEBY, R. G. *see* CHAPMAN, P. J. 7C
DYKE, K. G. H. Substrate-specific inactivation of staphylococcal penicillinase 641

EDDY, A. A., MULCAHY, M. F. & THOMSON, P. J. The effects of sodium ions and potassium ions on glycine uptake by mouse ascites-tumour cells in the presence and absence of selected metabolic inhibitors 863
EDELMAN, J. *see* CHAPMAN, J. M. 68P
ELMORE, D. T. & SMYTH, J. J. α-*N*-Methyl-α-*N*-toluene-*p*-sulphonyl-L-lysine β-naphthylester: a new reagent for determining the absolute molarity of solutions of trypsin 36P
ELMORE, D. T. & SMYTH, J. J. *p*-Nitrophenyl N^2-acetyl-N^1-benzylcarbazate (NPABC): a new reagent for determining the absolute molarity of solutions of trypsin and chymotrypsin 37P

ERNSTER, L. *see* ORRENIUS, S. 3P
EVANS, D. A. & LLOYD, D. Inducible enzymes in mitochondria of *Polytomella caeca* 21P
EVANS, D. A. & LLOYD, D. The effect of chloramphenicol on the mitochondria of *Polytomella caeca* 22P
EVANS, W. C. Mechanisms of microbial hydroxylations 1P

FABRO, S., HAGUE, D. & SMITH, R. L. The fate of [^{14}C]-thalidomide in the pregnant hamster 26P
FELTS, J. M. *see* MAYES, P. A. 400
FEUER, G. & GOLBERG, L. Stimulation of liver processing enzymes by derivatives of coumarin 13P
FEUER, G. *see also* GOLBERG, L. 12P
FINCHAM, J. R. S. & GARNER, H. R. Effects of pH and temperature on the wild-type and a mutant form of *Neurospora* glutamate dehydrogenase 705
FISHMAN, W. H. *see* KATO, K. 647
FIUME, L. *see* STIRPE, F. 67P
FLEMING, I. D. *see* CUTHBERTSON, W. F. J. 307
FONNUM, F. The 'compartmentation' of choline acetyltransferase within the synaptosome 262
FOTHERBY, K. *see* KAMYAB, S. 14P; LITTLETON, P. 14P
FOTHERGILL, J. E. *see* GILMORE, L. A. 39P
FREEDLAND, R. A., MARTIN, K. D. & MCFARLAND, L. Z. Properties of glutamic dehydrogenases from several tissues of the Japanese quail 6P
FRENDO, J. *see* KOJ, A. 791
FULLER, R. C. *see* CALLELY, A. G. 74P

GALLAGHER, R. *see* VERITY, M. A. 375
GAMMACK, D. B. & GUPTA, B. B. The isolation of lipoprotein particles from bovine milk by a gel-filtration procedure 72P
GAMMACK, D. B. *see also* BROWNLOW, E. K. 47P
GANGOLLI, S. D. *see* GILBERT, D. 11P
GARLAND, P. B. *see* NICHOLLS, D. G. 677
GARNER, H. R. *see* FINCHAM, J. R. S. 705
GELMAN, A. L. *see* CONCHIE, J. 609
GEVERS, W. The regulation of phosphoenolpyruvate synthesis in pigeon liver 141
GHAMBEER, R. K. *see* HOGENKAMP, H. P. C. 5C
GILBERT, D., GOLBERG, L. & GANGOLLI, S. D. Induction of liver microsomal processing enzymes by substituted phenols 11P
GILBERT, D. *see also* GOLBERG, L. 12P
GILLHAM, B. & YOUNG, L. Isolation of biosynthetic *p*-bromophenylpremercapturic acid 24P
GILMORE, L. A. & FOTHERGILL, J. E. The thiol and disulphide contents of immunologically related ovalbumins 39P
GLOVER, J. *see* BOOTH, R. 29P; JEVONS, S. 30P
GLOVER, J. S., SALTER, D. N. & SHEPHERD, B. P. A study of some factors that influence the iodination of ox insulin 120
GOAD, L. J. *see* KEMP, R. J. 53P
GOLBERG, L., GRASSO, P., FEUER, G. & GILBERT, D. Activities of microsomal enzymes in relation to liver enlargement 12P
GOLBERG, L. *see also* FEUER, G. 13P; GILBERT, D. 11P
GOODWIN, T. W. *see* GRIFFITHS, W. T. 589; REES, H. H. 52P; SHAH, S. P. J. 52P; THRELFALL, D. R. 573, 831
GRAHAM, J. M. & GREEN, C. The binding of sterols in cellular membranes 16C
GRANT, J. K. Steroid hydroxylations and inhibitions of hydroxylations 3P
GRASSO, P. *see* GOLBERG, L. 12P
GREEN, C. *see* GRAHAM, J. M. 16C
GREEN, R. C. *see* O'BRIEN, P. J. 32P
GREENBAUM, A. L., WALTERS, E. & MCLEAN, P. The effect of thyroidectomy on the pattern of fatty acids synthesized by mammary gland from lactating rats 720
GRESHAM, G. A. *see* BOWYER, D. E. 54P
GRIFFITHS, A. J., LLOYD, D., ROACH, G. I. & HUGHES, D. E. Metabolic changes in *Hartmanella castellani* during encystment 21P
GRIFFITHS, W. T., THRELFALL, D. R. & GOODWIN, T. W. Nature, intracellular distribution and formation of terpenoid quinones in maize and barley shoots 589
GRIFFITHS, W. T. *see also* THRELFALL, D. R. 831
GROSSOWICZ, N. *see* CAVARI, B. Z. 601
GRUNBERG-MANAGO, M. Polynucleotide phosphorylase: structure and mechanism of action 62P
GUPTA, B. B. *see* GAMMACK, D. B. 72P
GUTIERREZ-CORREA, J. *see* DIPIETRO, D. L. 246

HAEGERMARK, Ö. *see* LLOYD, A. G. 75P
HAGUE, D. *see* FABRO, S. 26P
HAISMAN, D. R. & KNIGHT, D. J. The enzymic hydrolysis of amygdalin 528
HALLIBURTON, I. W. Changes in polyribosomes during compensatory renal hypertrophy 65P
HAMILTON, W. A. The mechanism of the bacteriostatic action of tetrachlorosalicylanilide 73P
HARMEY, M. A., IKUMA, H. & BONNER, W. D., JUN. The effect of respiratory inhibitors on the near-ultraviolet spectrum of potato mitochondria 42P
HARRINGTON, M. G. *see* DUGGAN, P. F. 45P; HERLIHY, E. 46P
HARRIS, C. I. *see* JOHNSON, P. 79P
HARRIS, H. *see* BRAMWELL, M. E. 816
HARRIS, J. I. *see* BUTLER, P. J. G. 78P
HARTLEY, B. S. *see* BROWN, J. R. 497; BUTLER, P. J. G. 78P
HASLAM, R. J. & MILLS, D. C. B. The adenylate kinase of human plasma, erythrocytes and platelets in relation to the degradation of adenosine diphosphate in plasma 773
HASLEWOOD, G. A. D. Lamprey bile salts 6P
HATCH, M. D. *see* SLACK, C. R. 660
HAY, J., SUBAK-SHARPE, H. & SHEPHERD, W. M. New transfer ribonucleic acid in BHK 21/C13 cells infected with herpes virus 69P
HEENAN, M. P. *see* BINNING, A. 42
HEFFRON, J. J. A. & DUGGAN, P. F. The adenosine triphosphatase activity of skeletal muscle cell membranes 46P
HEIKEL, T. A. J. Effect of steroid drugs on biliary secretion: intrahepatic cholestasis 63P
HERLIHY, E., CONWAY, E. J. & HARRINGTON, M. G. Sodium localization in normal and sodium-rich sartorius muscle 46P
HILL, C. H. *see* KIM, C. S. 256
HILL, H. Z. *see* WILSON, S. H. 567
HINGERTY, D. *see* RYAN, M. P. 44P
HIROHATA, I. *see* KATO, K. 647
HITCHCOCK, C., JAMES, A. T. & MORRIS, L. J. The stereochemistry of α-oxidation of fatty acids in plants 8P
HOAGLAND, M. B. *see* WILSON, S. H. 556, 567
HOBKIRK, R. *see* RAUD, H. R. 724
HOESCHEN, R. J. *see* OLSON, R. E. 796
HOGENKAMP, H. P. C., GHAMBEER, R. K., BROWNSON, C. & BLAKLEY, R. L. The relation of hydrogen exchange between deoxyadenosylcobalamin and water to the role of the coenzyme in ribonucleotide reduction 5C
HOLLINSHEAD, J. A. *see* BARKER, G. R. 230
HOLT, S. J. *see* KETTERER, B. 692
HOWARD, A. N. *see* BOWYER, D. E. 54P
HÜBSCHER, G. *see* MITCHELL, M. P. 23P; SHAKESPEARE, P. 10P
HUGHES, D. E. *see* GRIFFITHS, A. J. 21P
HULTIN, T. *see* SMUCKLER, E. A. 55
HUNT, P. F. *see* AKHTAR, M. 616
HUSSEY, C. & SPENCER, B. Regulation of arylsulphatase synthesis in *Aspergillus nidulans* 56P

IDE, H. *see* KATO, K. 647
IKUMA, H. *see* HARMEY, M. A. 42P

JACOBS, S. *see* MUIR, H. 367
JACOBSON, R. E. *see* LEWIN, S. 66P
JAMES, A. T. *see* HITCHCOCK, C. 8P
JAMES, S. P., WARING, R. H. & WHITE, D. A. Some metabolites of bromocyclopentane, bromocyclohexane and bromocycloheptane 25P
JAMIESON, J. C. *see* SIMKIN, J. L. 153, 38P
JANIK, Z. *see* KOJ, A. 791
JARVIS, W. T. S. *see* BARNETT, J. E. G. 699
JEANRENAUD, B. Effect of glucocorticoid hormones on fatty acid mobilization and re-esterification in rat adipose tissue 627
JENNER, F. A. & POLLITT, R. J. Large quantities of 2-acetamido-1(β-L-aspartamido)-1,2-dideoxyglucose in the urine of mentally retarded siblings 48P
JEPSON, J. B. Hydroxylation of aromatic amino acids and their derivatives 3P
JEPSON, J. B. *see also* COULSON, W. F. 15P
JESSUP, S. J. *see* CROWSHAW, K. 79
JEVONS, S. & GLOVER, J. Phospholipids in prealbumin fraction of human serum 30P
JOHN, K. V., LAKSHMANAN, M. R. & CAMA, H. R. Metabolism and biological potency of *retro*-retinyl acetate in the rat 544
JOHN, K. V., LAKSHMANAN, M. R. & CAMA, H. R. Preparation, properties and metabolism of 5,6-monoepoxyretinoic acid 539
JOHNSON, C. E., KNOWLES, P. F. & BRAY, R. C. Mössbauer evidence on the form of iron in xanthine oxidase 10C
JOHNSON, C. H. & KNOWLES, J. R. The binding of inhibitors to α-chymotrypsin at alkaline pH 428
JOHNSON, P., HARRIS, C. I. & PERRY, S. V. 3-Methylhistidine in actin and other muscle proteins 79P
JONES, E. A. Changes in the enzyme pattern of the mammary gland of the lactating rat after hypophysectomy and weaning 420
JONES, R. G. W. Ubiquinone deficiency in an auxotroph of *Escherichia coli* requiring 4-hydroxybenzoic acid 714
JONES, R. G. W. & LASCELLES, J. The relationship of 4-hydroxybenzoic acid to lysine and methionine formation in *Escherichia coli* 709

KAMYAB, S., FOTHERBY, K. & WILSON, G. Metabolism of lynesterenol in humans 14P
KANAGALINGAM, K. *see* COX, R. A. 431, 749
KATO, K., IDE, H., HIROHATA, I. & FISHMAN, W. H. Biosynthetic preparation of the *NO*-glucosiduronic acid of *N*-acetyl-*N*-phenylhydroxylamine 647
KAUFFMAN, D. L. *see* BROWN, J. R. 497
KEIR, H. M. An evaluation of the action of deoxyribonucleic acid polymerase in relation to the replication of deoxyribonucleic acid *in vivo* 61P
KEIR, H. M. *see also* MORRISON, J. M. 70P
KELLIE, A. E. *see* SADLER, P. A. 768; SCHULSTER, D. 759
KEMP, R. J., GOAD, L. J. & MERCER, E. I. Sterol composition in maize during germination 53P
KENDRICK-JONES, J. & PERRY, S. V. The enzymes of adenine nucleotide metabolism in developing skeletal muscle 207
KETTERER, B., HOLT, S. J. & ROSS-MANSELL, P. The effect of a single intraperitoneal dose of the hepatocarcinogen 4-dimethylaminoazobenzene on the rough-surfaced endoplasmic reticulum of the liver of the rat 692
KETTERER, B., ROSS-MANSELL, P. & WHITEHEAD, J. K. The isolation of carcinogen-binding protein from livers of rats given 4-dimethylaminazobenzene 316
KIM, C. S. & HILL, C. H. The effect of copper deficiency on the induction of tryptophan pyrrolase in chick liver by hydrocortisone 256
KINSELLA, P. V., BUTLER, T. M., CAFFREY, P. J. & O'CONNELL, W. The effect of high dietary amounts of potassium and sodium on utilization of magnesium 47P
KNIGHT, B. L. Brown-fat metabolism in newborn rabbits exposed to cold 11P
KNIGHT, D. J. *see* HAISMAN, D. R. 528
KNIVETT, V. A. & CULLEN, J. Fatty acid synthesis in *Escherichia coli* 299
KNOWLES, J. R. *see* JOHNSON, C. H. 428
KNOWLES, P. F. *see* JOHNSON, C. E. 10C
KNOX, K. W., CULLEN, J. & WORK, E. An extracellular lipopolysaccharide–phospholipid–protein complex produced by *Escherichia coli* grown under lysine-limiting conditions 192
KODICEK, E. *see* WILSON, P. W. 165
KOJ, A., FRENDO, J. & JANIK, Z. [^{35}S]Thiosulphate oxidation by rat liver mitochondria in the presence of glutathione 791
KORNBERG, H. L. *see* MORGAN, M. J. 57P
KOSINSKI, Z. *see* LEE, S. 25C
KOSKINEN, M. *see* RÄIHÄ, N. C. R. 623
KOVAČEVIĆ, Z. The inhibition of accumulation of [1-^{14}C]-glycine and its incorporation into protein of Ehrlich ascites-carcinoma cells by DL-methionine 535
KREBS, H. A. *see* NISHITSUTSUJI-UWO, J. M. 852; WILLIAMSON, D. H. 514
KUWABARA, S. & ABRAHAM, E. P. Some properties of two extracellular β-lactamases from *Bacillus cereus* 569/H 27C

LAKSHMANAN, M. R. *see* JOHN, K. V. 539, 544
LAL, B. M. *see* BURDON, R. H. 69P
LASCELLES, J. *see* JONES, R. G. W. 709
LAWLER, P. D. & ROGERS, L. J. Biochemical investigations into the effect of DDT on barley 44P
LAWSON, D. E. M. *see* WILSON, P. W. 165
LEATHWOOD, P. D. *see* PLUMMER, D. T. 172
LEBERMAN, R. *see* BUTLER, P. J. G. 78P
LEE, D. J. W. & BARNES, M. McC. The effect of cadmium injury on phospholipid fatty acids of rat testis, compared with the effects of vitamin E deficiency 30P
LEE, K. H. *see* BOWNESS, J. M. 382
LEE, S., BROWN, G. L. & KOSINSKI, Z. Loss of coding properties of the oligonucleotide adenylyluridylylguanosine after photoreduction or hydration 25C
LENG, R. A., STEEL, J. W. & LUICK, J. R. Contribution of propionate to glucose synthesis in sheep 785
LEONARD, P. J. & LOSOWSKY, M. S. The effect of α-tocopherol administration on red-cell survival in vitamin E-deficient subjects 51P
LEVVY, G. A. *see* CONCHIE, J. 609
LEWIN, D. R. & THOMPSON, J. N. Light-sensitive pigments formed from retinaldehyde epoxides 35P
LEWIN, S. Overriding of influences opposing hydrogen bonds 65P
LEWIN, S. Stereochemical restrictions in the construction of the model of the B-form of the double helix of deoxyribonucleic acid 8P
LEWIN, S. & JACOBSON, R. E. Thermally favoured hydrogen bonds in histones 66P
LICHTI, F. U. & LUCY, J. A. Interactions of retinol with donors and acceptors of electrons 34P
LICHTI, F. U. *see also* LUCY, J. A. 34P
LINDSTEDT, G., LINDSTEDT, S., MIDTVEDT, T. & TOFFT, M. The hydroxylation of γ-butyrobetaine to carnitine 19P
LINDSTEDT, S. *see* LINDSTEDT, G. 19P
LINZELL, J. L., MEPHAM, T. B., ANNISON, E. F. & WEST, C. E. Mammary metabolism in the lactating sow 42P
LITTLE, C. *see* O'BRIEN, P. J. 31P

LITTLETON, P., FOTHERBY, K. & WILSON, G. Metabolism of norgestrel in humans 14P
LLOYD, A. G., BLOOM, G. D. & BALAZS, E. A. Evidence for the covalent association of heparin and protein in mast-cell granules 76P
LLOYD, A. G., BLOOM, G. D., BALAZS, E. A. & HAEGERMARK, Ö. Combined biochemical and morphological ultrastructure studies on mast-cell granules 75P
LLOYD, D. *see* EVANS, D. A. 21P, 22P; GRIFFITHS, A. J. 21P
LOSOWSKY, M. S. *see* LEONARD, P. J. 51P
LOWE, E. *see* CAMPBELL, P. N. 280
LOWENSTEIN, J. M. *see* SPENCER, A. F. 342
LUCY, J. A. & LICHTI, F. U. Vitamin A as an electron-transfer agent: reactions with iodine 34P
LUCY, J. A. *see also* LICHTI, F. U. 34P
LUICK, J. R. *see* LENG, R. A. 785
LUND, P. *see* WILLIAMSON, D. H. 514
LUSCOMBE, M. & PHELPS, C. F. Action of degradative enzymes on the light fraction of bovine septa protein–polysaccharide 103

McFARLAND, L. Z. *see* FREEDLAND, R. A. 6P
McILREAVY, D. J. *see* MIDGLEY, J. E. M. 50P
MACKAY, D. *see* BARBER, H. E. 251
McLEAN, A. E. M. Effect of halogenated hydrocarbons on microsomal cytochrome (*P*-450) 13P
McLEAN, P. *see* GREENBAUM, A. L. 720
MALHOTRA, O. P. & DEY, P. M. Purification and physical properties of sweet-almond α-galactosidase 508
MALHOTRA, O. P. & DEY, P. M. Specificity of sweet-almond α-galactosidase 739
MALINS, D. C. The biosynthesis of plasmalogens from glycerol ethers 29P
MANNERS, D. J. & MITCHELL, J. P. Studies on plant β-D-xylosidases 43P
MARKS, N. Separation of brain peptidases and proteinases 40P
MARTIN, B. T. *see* BURDON, R. H. 69P
MARTIN, K. D. *see* FREEDLAND, R. A. 6P
MASSAGLIA, A. *see* ROSA, U. 407
MATHIAS, A. P. & RABIN, B. R. Mechanism of action of bovine pancreatic ribonuclease 62P
MAYES, P. A. & FELTS, J. M. Comparison of oxidative metabolism in starved, fat-fed and carbohydrate-fed rats 400
MELAMED, M. D. Electrophoretic properties of ovomucoid 805
MEPHAM, T. B. *see* LINZELL, J. L. 42P
MERCER, E. I. *see* KEMP, R. J. 53P
MIDDLETON, B. The mechanism of synthesis of 3-hydroxy-3-methyl-glutaryl-coenzyme A 6P
MIDGLEY, J. E. M. & MCILREAVY, D. J. Polynucleotide species distributions in *Escherichia coli* ribosomal ribonucleic acid 50P
MIDTVEDT, T. *see* LINDSTEDT, G. 19P
MILLBURN, P. *see* ABOU-EL-MAKAREM, M. M. 25P
MILLS, D. C. B. *see* HASLAM, R. J. 773
MILSTEIN, C. P. Isolation of *Aulacomya* paramyosin 634
MITCHELL, J. P. *see* MANNERS, D. J. 43P
MITCHELL, M. P. & HÜBSCHER, G. The oxidation of *n*-hexadecane by guinea-pig small-intestinal mucosa 23P
MITROPOULOS, K. A. & MYANT, N. B. The formation of lithocholic acid, chenodeoxycholic acid and α- and β-muricholic acids from cholesterol incubated with rat-liver mitochondria 472
MITTON, J. R. & BOYD, G. S. The enzymic hydroxylation of cholesterol by microsomal preparations of rat liver 17P
MOORE, T., SHARMAN, I. M., STANTON, M. G. & DINGLE, J. T. Nutrition and lysosomal activity. The influence of vitamin E deficiency and its duration on the stability of lysosomes in the kidneys of rats 923
MORATTI, R. *see* RUFFO, A. 19
MORGAN, B. & THOMPSON, J. N. The distribution of low levels of retinoic acid in the rat 35P
MORGAN, M. J. & KORNBERG, H. L. Effect of pyruvate on hexose metabolism by *Escherichia coli* 57P
MORRIS, L. J. *see* HITCHCOCK, C. 8P
MORRISON, J. M. & KEIR, H. M. Characterization of the deoxyribonuclease activity induced by infection with herpes virus 70P
MOSES, V. The regulatory process in the de-repression of enzyme synthesis. Alkaline phosphatase of *Bacillus subtilis* 650
MOSES, V. *see also* PALMER, J. 358; PREVOST, C. 349
MUIR, H. & JACOBS, S. Protein–polysaccharides of pig laryngeal cartilage 367
MULCAHY, M. F. *see* EDDY, A. A. 863
MUNDAY, K. A. *see* BARNETT, J. E. G. 699
MURPHY, P. M. Studies on the thiol content of bovine adenosine deaminase 48P
MURRAY, A. W. Studies on the nature of the regulation by purine nucleotides of adenine phosphoribosyltransferase and of hypoxanthine phosphoribosyltransferase from Ehrlich ascites-tumour cells 271
MYANT, N. B. *see* MITROPOULOS, K. A. 472

NAKAMURA, S. & OGATA, H. Formation of oxaloacetate from unnatural (−)-tartrate by fumarate hydratase 77P
NARAYAN, K. A. Serum lipoproteins during chemical carcinogenesis 672
NEAL, R. A. Studies on the metabolism of diethyl 4-nitrophenyl phosphorothionate (parathion) *in vitro* 183
NETSCHEY, A. *see* BROWN, A. D. 24
NEWSHOLME, E. A. *see* OPIE, L. H. 391
NEWTON, G. G. F. *see* SMITH, B. 877; WARREN, S. C. 891, 902
NICHOLLS, D. G., SHEPHERD, D. & GARLAND, P. B. A continuous recording technique for the measurement of carbon dioxide, and its application to mitochondrial oxidation and decarboxylation reactions 677
NISHIITSUTSUJI-UWO, J. M., ROSS, B. D. & KREBS, H. A. Metabolic activities of the isolated perfused rat kidney 852
NOLAN, D. N. & Ó hEOCHA, C. Determination of molecular weights of algal biliproteins by gel filtration 39P

OAKEY, R. E. *see* SHAHWAN, M. M. 15P
O'BRIEN, P. J. The effects of a lipid peroxide on vitamin A 32P
O'BRIEN, P. J. & GREEN, R. C. The effects of a lipid peroxide on intracellular metabolism 32P
O'BRIEN, P. J. & LITTLE, C. An intracellular glutathione peroxidase with a lipid peroxide as substrate 31P
O'BRIEN, P. J. & TITMUS, G. The effects of a lipid peroxide on vitamin E 33P
O'CONNELL, W. *see* KINSELLA, P. V. 47P
OGATA, H. *see* NAKAMURA, S. 77P
Ó hEOCHA, C. *see* NOLAN, D. N. 39P
OHNUMA, T., BERGEL, F. & BRAY, R. C. Enzymes in cancer. Asparaginase from chicken liver 238
OLIVER, I. T. *see* YEUNG, D. 744
OLSON, R. E. & HOESCHEN, R. J. Utilization of endogenous lipid by the isolated perfused rat heart 796
OPIE, L. H. & NEWSHOLME, E. A. The activities of fructose 1,6-diphosphatase, phosphofructokinase and phosphoenolpyruvate carboxykinase in white muscle and red muscle 391
ORD, M. G. & STOCKEN, L. A. Changes in the phosphorylation of histones during liver regeneration 5P
ORRENIUS, S. & ERNSTER, L. The role of cytochrome *P*-450 in the hydroxylation of lipid-soluble compounds in liver microsomes 3P

PACKTER, N. M. *see* STEWARD, M. W. 9P

PALMER, J. & MOSES, V. Involvement of the *lac* regulatory genes in catabolite repression in *Escherichia coli* 358

PARVEZ, M. A. *see* AKHTAR, M. 616

PELIZZA, G. *see* RUFFO, A. 19

PENNISI, F. *see* ROSA, U. 407

PENNOCK, J. F. *see* WHITTLE, K. J. 21C

PERRY, S. V. *see* JOHNSON, P. 79P; KENDRICK-JONES, J. 207

PERZYŃSKI, S. & SZAFRAŃSKI, P. The effect of soluble ribonucleic acid on the binding of rapidly ^{14}C-labelled ribonucleic acid to ribosomes 1C

PHELPS, C. F. *see* LUSCOMBE, M. 103

PIKKARAINEN, P. *see* RÄIHÄ, N. C. R. 623

PLUMMER, D. T. & LEATHWOOD, P. D. Some properties of lactate dehydrogenase found in human urine 172

POJNAR, E. & COCKING, E. C. Cell-wall regeneration by isolated tomato-fruit protoplasts 74P

POLLAK, J. K. & WARD, D. B. Changes in the chemical composition and the enzymic activities of hepatic microsomes of the chick embryo during development 730

POLLITT, R. J. *see* JENNER, F. A. 48P

PREVOST, C. & MOSES, V. Pool sizes of metabolic intermediates and their relation to glucose repression of β-galactosidase synthesis in *Escherichia coli* 349

PRYOR, B. E. & SLATER, T. F. Changes in the acid hydrolase content of rat bile during anaesthesia 49P

PUTNAM, F. W. *see* CLAMP, J. R. 225

RABIN, B. R. *see* MATHIAS, A. P. 62P

RAHHAL, D. A., TURNER, J. M. & WILLETTS, A. J. The role of aminoacetone in L-threonine metabolism by *Bacillus subtilis* 73P

RÄIHÄ, N. C. R., KOSKINEN, M. & PIKKARAINEN, P. Developmental changes in alcohol-dehydrogenase activity in rat and guinea-pig liver 623

RAMWELL, P. W. *see* CROWSHAW, K. 79

RAUD, H. R. & HOBKIRK, R. Interconversion of 16-epioestriol and oestriol by avian liver tissue *in vitro* 724

REES, H. H., BRITTON, G. & GOODWIN, T. W. The biosynthesis of β-amyrin 52P

REES, K. R. *see* CLIFFORD, J. I. 258, 467

RICE, M. S. *see* CUTHBERTSON, W. F. J. 307

RICHARDS, E. G. *see* CANNON, M. 23C

RIEBER, M. The protein-synthesizing system of dormant seeds 64P

ROACH, G. I. *see* GRIFFITHS, A. J. 21P

ROCHE, H. G. *see* WINDER, F. G. 57P

ROGERS, H. J. The inhibition of mucopeptide synthesis by benzylpenicillin in relation to irreversible fixation of the antibiotic by staphylococci 90

ROGERS, L. J. *see* LAWLER, P. D. 44P; SHAH, S. P. J. 52P

ROODYN, D. B. & WILKIE, D. A characteristic pattern of respiratory enzymes in cytoplasmic 'petite' strains of *Saccharomyces cerevisiae* as revealed by multiple enzyme analysis 3C

ROONEY, S. A. *see* WINDER, F. G. 58P

ROSA, U., MASSAGLIA, A., PENNISI, F., COZZANI, I. & ROSSI, C. A. Effect of the insulin iodination on the reactivity of the inter-chain disulphide bonds towards sodium sulphite 407

ROSS, B. D. *see* NISHITSUTSUJI-UWO, J. M. 852

ROSSI, C. A. *see* ROSA, U. 407

ROSS-MANSELL, P. *see* KETTERER, B. 316, 692

RUFFO, A., TESTA, E., ADINOLFI, A., PELIZZA, G. & MORATTI, R. Control of citric acid cycle by glyoxylate. Mechanism of the inhibition by oxalomalate and γ-hydroxy-α-oxoglutarate 19

RYAN, B. A. *see* DUGGAN, P. F. 45P

RYAN, M. P., SMYTH, H. & HINGERTY, D. The effects of potassium and magnesium deficiencies on composition and growth rates of ascites tumour cells in mice 44P

SADLER, P. A. & KELLIE, A. E. The gas–liquid chromatography of carboxylic acid esters of the urinary 11-deoxy-17-oxo steroids. Determination as *n*-butyrates 768

SALTER, D. N. *see* GLOVER, J. S. 120

SCHOENTAL, R. The use of radioactive selenium isotope (^{75}Se) as an indicator for sulphur compounds 27P

SCHOFIELD, J. G. Measurement of growth hormone released by ox anterior-pituitary slices *in vitro* 331

SCHULSTER, D. & KELLIE, A. E. C_{20} steroids. The metabolism of 3-hydroxy-19-nor[21-^{14}C]pregna-1,3,5(10)-trien-20-one in the rabbit 759

SERCK-HANSSEN, G. *see* CAMPBELL, P. N. 280

SHAH, S. P. J., ROGERS, L. J. & GOODWIN, T. W. Glyoxylate and serine in the biosynthesis of chloroplast terpenoids 52P

SHAHWAN, M. M., OAKEY, R. E. & STITCH, S. R. Steroid biosynthesis *in vitro* by adrenal tissue from a newborn anencephalic infant 15P

SHAKESPEARE, P., SRIVASTAVA, L. M. & HÜBSCHER, G. Hexokinase in the mucosa of the small intestine of the rat and guinea pig 10P

SHARMAN, I. M. *see* MOORE, T. 923

SHEPHERD, B. P. *see* GLOVER, J. S. 120

SHEPHERD, D. *see* NICHOLLS, D. G. 677

SHEPHERD, W. M. *see* HAY, J. 69P

SIMKIN, J. L. & JAMIESON, J. C. Studies on the nature of microsome-bound substances involved in the biosynthesis of acidic glycoproteins of guinea-pig serum 38P

SIMKIN, J. L. & JAMIESON, J. C. Studies on the site of biosynthesis of acidic glycoproteins of guinea-pig serum 153

SIMPSON, E. R. & BOYD, G. S. Steroid hydroxylation in the adrenal cortex and the cholesterol side-chain cleavage system 17P

SKEHEL, J. J. & BURKE, D. C. Virus nucleic acid and interferon formation 71P

SLACK, C. R. & HATCH, M. D. Comparative studies on the activity of carboxylases and other enzymes in relation to the new pathway of photosynthetic carbon dioxide fixation in tropical grasses 660

SLATER, T. F. *see* DELANEY, V. B. 49P; PRYOR, B. E. 49P

SMELLIE, R. M. S. Ribonucleic acid synthesis: some thoughts and speculations 61P

SMITH, A. D. & WINKLER, H. A simple method for the isolation of adrenal chromaffin granules on a large scale 480

SMITH, A. D. & WINKLER, H. Purification and properties of an acidic protein from chromaffin granules of bovine adrenal medulla 483

SMITH, A. D. *see also* BLASCHKO, H. 30C

SMITH, B., WARREN, S. C., NEWTON, G. G. F. & ABRAHAM, E. P. Biosynthesis of penicillin N and cephalosporin C. Antibiotic production and other features of the metabolism of a *Cephalosporium* sp. 877

SMITH, J. K. The purification and properties of placental histaminase 110

SMITH, J. N. *see* BINNING, A. 42; CLARK, A. G. 49

SMITH, R. L. *see* ABOU-EL-MAKAREM, M. M. 25P; FABBO, S. 26P

SMUCKLER, E. A., ARRHENIUS, E. & HULTIN, T. Alterations in microsomal electron transport, oxidative *N*-demethylation and azo-dye cleavage in carbon tetrachloride- and dimethylnitrosamine-induced liver injury 55

SMYTH, H. *see* RYAN, M. P. 44P

SMYTH, J. J. *see* ELMORE, D. T. 36P, 37P

SOUTHGATE, D. A. T. *see* DICKERSON, J. W. T. 493

SPENCER, A. F. & LOWENSTEIN, J. M. Citrate content of liver and kidney of rat in various metabolic states and in fluoroacetate poisoning 342

SPENCER, B. *see* HUSSEY, C. 56P

SPRING, M. S. *see* BELLIS, D. M. 202

SRIVASTAVA, L. M. *see* SHAKESPEARE, P. 10P
STACEY, K. A. The utilization of exogenous thymine by *Escherichia coli* 68P
STAFFORD, W. L. Effects of cortisol and of actinomycin D *in vitro* on the hormone-sensitive lipase of adipose tissue 75P
STANSFIELD, D. A. *see* COUTTS, J. R. T. 55P
STANTON, M. G. *see* MOORE, T. 923
STEEL, J. W. *see* LENG, R. A. 785
STEVENS, L. Studies on the interaction of homologues of spermine with deoxyribonucleic acid and with bacterial protoplasts 811
STEVENS, M. E. M. *see* CLIFFORD, J. I. 258
STEWARD, M. W. & PACKTER, N. M. Incorporation of 5-[*methyl*-^{14}C]orcylaldehyde into gliorosein by *Gliocladium roseum* 9P
STIRPE, F. & FIUME, L. Effect of α-amanitin on ribonucleic acid synthesis and on ribonucleic acid polymerase in mouse liver 67P
STITCH, S. R. *see* SHAHWAN, M. M. 15P
STOCKEN, L. A. *see* ORD, M. G. 5P
STOKER, J. R. *see* BELLIS, D. M. 202
SUBAK-SHARPE, H. *see* HAY, J. 69P
SULIMOVICI, S. & BOYD, G. S. Steroid hydroxylation and the cholesterol side-chain cleavage system in rat ovary 16P
SZAFRAŃSKI, P. *see* PERZYŃSKI, S. 1C

TAYLOR, C. B. *see* BAILEY, E. 78P; BARTLEY, W. 550
TEICHGRÄBER, P. *see* BIESOLD, D. 13C
TESTA, E. *see* RUFFO, A. 19
THAIDIGSMAN, J. H. *see* DIPIETRO, D. L. 246
THOMPSON, A. S. *see* WARE, G. C. 59P
THOMPSON, J. N. *see* COWARD, W. A. 35P; LEWIN, D. R. 36P; MORGAN, B. 35P
THOMSON, P. J. *see* EDDY, A. A. 863
THRELFALL, D. R. & GOODWIN, T. W. Nature, intracellular distribution and formation of terpenoid quinones in *Euglena gracilis* 573
THRELFALL, D. R., GRIFFITHS, W. T. & GOODWIN, T. W. Biosynthesis of the prenyl side chains of plastoquinone and related compounds in maize and barley shoots 831
THRELFALL, D. R. *see also* GRIFFITHS, W. T. 589
TITMUS, G. *see* O'BRIEN, P. J. 33P
TOFFT, M. *see* LINDSTEDT, G. 19P
TRANTER, E. K. & CAIN, R. B. The degradation of fluoro aromatic compounds to fluorocitrate and fluoroacetate by bacteria 22P
TURNER, J. M. *see* RAHHAL, D. A. 73P

VAES, G. Hyaluronidase activity in lysosomes of bone tissue 802
VAN DEENEN, L. L. M. *see* BLASCHKO, H. 30C
VAN DEN BOSCH, H. *see* BLASCHKO, H. 30C
VERITY, M. A., GALLAGHER, R. & BROWN, W. J. Fluorimetric determination of D-amino acid oxidase 375

WADE, A. P. Hydrolysis of pregnanediol glucuronide by sodium periodate 19C
WAINWRIGHT, T. Yeast sulphite reductase 56P
WALKER, B. L. & YURKOWSKI, M. Effect of cell age on erythrocyte fatty acid composition in rats on different dietary regimes 218
WALKER, S. R. *see* BRIDGES, J. W. 23P
WALSH, J. P. & DOWNEY, W. K. Effect of pre-partum milking on milk secretion 41P
WALTERS, E. *see* GREENBAUM, A. L. 720
WARD, D. B. *see* POLLAK, J. K. 730
WARDLE, E. *see* COULSON, W. F. 15P
WARE, G. C. & THOMPSON, A. S. Observations on transient conditions in a chemostat 59P
WARING, R. H. *see* JAMES, S. P. 25P
WARREN, S. C., NEWTON, G. G. F. & ABRAHAM, E. P. The role of valine in the biosynthesis of penicillin N and cephalosporin C by a *Cephalosporium* sp. 902
WARREN, S. C., NEWTON, G. G. F. & ABRAHAM, E. P. Use of α-aminoadipic acid for the biosynthesis of penicillin N and cephalosporin C by a *Cephalosporium* sp. 891
WARREN, S. C. *see also* SMITH, B. 877
WEBB, M. *see* ARMSTRONG, M. 913
WELCH, B. L. *see* BARBER, H. E. 251
WEST, C. E. *see* LINZELL, J. L. 42P
WHITE, D. A. *see* JAMES, S. P. 25P
WHITEHEAD, J. K. *see* KETTERER, B. 316
WHITTAKER, P. A. The electron-transport system of organism N.C.I.B. 8250 (*Moraxella* sp.) 50P
WHITTLE, K. J., AUDLEY, B. G. & PENNOCK, J. F. The incorporation of [^{14}C]methionine into chromanols and quinones by *Hevea brasiliensis* latex 21C
WILKIE, D. *see* ROODYN, D. B. 3C
WILLETTS, A. J. *see* RAHHAL, D. A. 73P
WILLETTS, N. S. Intracellular protein breakdown in growing cells of *Escherichia coli* 462
WILLETTS, N. S. Intracellular protein breakdown in non-growing cells of *Escherichia coli* 453
WILLIAMS, R. T. *see* ABOU-EL-MAKAREM, M. M. 25P; BRIDGES, J. W. 23P
WILLIAMSON, D. H., LUND, P. & KREBS, H. A. The redox state of free nicotinamide–adenine dinucleotide in the cytoplasm and mitochondria of rat liver 514
WILSON, G. *see* KAMYAB, S. 14P; LITTLETON, P. 14P
WILSON, P. W., LAWSON, D. E. M. & KODICEK, E. The intracellular distribution of [1-^{3}H]cholecalciferol in the intestine of vitamin D-deficient and -supplemented rats 165
WILSON, S. H., HILL, H. Z. & HOAGLAND, M. B. Physiology of rat-liver polysomes. Protein synthesis by stable polysomes 567
WILSON, S. H. & HOAGLAND, M. B. Physiology of rat-liver polysomes. The stability of messenger ribonucleic acid and ribosomes 556
WIMPENNY, J. W. T. & COLE, J. A. Regulation of metabolism in facultative bacteria: the effect of nitrate 20P
WINDER, F. G. & COUGHLAN, M. P. Some characteristics of the ribonucleoside triphosphate-dependent system for deoxyribonucleic acid breakdown from *Mycobacterium smegmatis* 59P
WINDER, F. G. & COUGHLAN, M. P. The relationship between iron deficiency, deoxyribonucleic acid content and ribonucleoside triphosphate-dependent breakdown of deoxyribonucleic acid by *Mycobacterium smegmatis* 67P
WINDER, F. G. & ROCHE, H. G. The accumulation of inorganic polyphosphate brought about by tetrahydrofurfuryl alcohol in *Mycobacterium smegmatis* 57P
WINDER, F. G. & ROONEY, S. A. Isoniazid and the lipids of *Mycobacterium tuberculosis*: chromatographic studies 58P
WINKLER, H. *see* BLASCHKO, H. 30C; SMITH, A. D. 480, 483
WOOD, C. *see* CORFIELD, M. C. 15C
WORK, E. *see* KNOX, K. W. 192
WUNNER, W. H. Amino acid deficiency and rat-liver polysome stability 71P
WYNN, C. H. *see* CONVY, S. 413

YATES, M. G. Stimulation of the phosphoroclastic-system of *Desulfovibrio* by nucleotide triphosphates 32C
YEUNG, D. & OLIVER, I. T. Gluconeogenesis from amino acids in neonatal rat liver 744
YOUNG, L. *see* GILLHAM, B. 24P
YURKOWSKI, M. *see* WALKER, B. L. 218

ZATMAN, L. J. *see* ANTHONY, C. 19P

Index of Subjects

Note. Short Communications are distinguished by C. Pages in *Proceedings of The Biochemical Society* are distinguished by P.

2-Acetamido-1-(β-L-aspartamido)-1,2-dideoxyglucose, large quantities of, in the urine of mentally retarded siblings (Jenner, F. A. & Pollitt, R. J.) 48P

2-Acetamido-2-deoxy-D-galactose, oligosaccharide units containing, *O*-glycosidically linked to serine in an IgA immunoglobulin (Dawson, G. & Clamp, J. R.) 5P

2-Acetamidofluorene, serum-protein and -lipoprotein patterns of rats during carcinogenesis induced by (Narayan, K. A.) 672

Acetate, oxidation of, in starved, fat-fed and carbohydrate-fed rats (Mayes, P. A. & Felts, J. M.) 400

Acetate, transamination of a protein in the presence of glyoxylate, nickel ions and (Dixon, H. B. F.) 38P

Acetoacetate, oxidation of, in the isolated perfused rat kidney (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852

Acetylcholine, subcellular localization of, in brain (Fonnum, F.) 262

Acetyl-coenzyme A carboxylase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420

N-Acetylgalactosamine, oligosaccharide units containing, *O*-glycosidically linked to serine in an IgA immunoglobulin (Dawson, G. & Clamp, J. R.) 5P

N-Acetylneuraminic acid, protein-bound, distribution of, in subcellular fractions of rat brain (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73

N-Acetyl-*N*-phenylhydroxylamine, biosynthetic preparation of the *NO*-glucosiduronic acid of (Kato, K., Ide, H., Hirohata, I. & Fishman, W. H.) 647

N-Acetyl-D-tryptophan amide, binding of, to α-chymotrypsin at alkaline pH (Johnson, C. H. & Knowles, J. R.) 428

Acids, dicarboxylic, species differences in the inhibition of glutathione *S*-aryltransferase by phthaleins and (Clark, A. G., Darby, F. J. & Smith, J. N.) 49

Aconitate, colorimetric method of assay of (Spencer, A. F. & Lowenstein, J. M.) 342

Aconitate hydratase, inhibition of, by oxalomalate and γ-hydroxy-α-oxoglutarate (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19

Actin, 3-methylhistidine in, and other muscle proteins (Johnson, P., Harris, C. I. & Perry, S. V.) 79P

Actinomycin C, effect of, on alkaline phosphatase and protein synthesis in *Bacillus subtilis* (Moses, V.) 650

Actinomycin D, effects of cortisol and, *in vitro* on the hormone-sensitive lipase of adipose tissue (Stafford, W. L.) 75P

Adenine nucleotides, enzymes involved in the metabolism of, in developing skeletal muscle (Kendrick-Jones, J. & Perry, S. V.) 207

Adenine phosphoribosyltransferase, studies on the nature of the regulation by purine nucleotides of hypoxanthine phosphoribosyltransferase and, from Ehrlich ascites-tumour cells (Murray, A. W.) 271

Adenosine deaminase, bovine, studies on the thiol content of (Murphy, P. M.) 48P

Adenosine diphosphate, adenylate kinase of human plasma, erythrocytes and platelets in relation to the degradation of, in plasma (Haslam, R. J. & Mills, D. C. B.) 773

Adenosine triphosphatase, activity of, of skeletal-muscle cell membranes (Heffron, J. J. A. & Duggan, P. F.) 46P

Adenosine triphosphatase, changes in the activity of, in hepatic microsomes of the chick embryo during development (Pollak, J. K. & Ward, D. B.) 730

Adenosine triphosphatase, magnesium-dependent activity of, in light-microsomal fractions of muscle (Duggan, P. F., Ryan, B. A. & Harrington, M. G.) 45P

Adenosine triphosphate citrate lyase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420

Adenosine triphosphate citrate lyase, effect of diets low in fat content on the activity of, in rat tissues (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550

Adenosine triphosphate–creatine phosphotransferase, *see* Creatine kinase

Adenosine triphosphate, intracellular concentration of, and the effect of carbonyl cyanide *m*-chlorophenylhydrazone on respiration and respiration-dependent phosphorylation in *Escherichia coli* (Cavari, B. Z., Avi-Dor, Y. & Grossowicz, N.) 601

Adenylate deaminase, activity of, in developing skeletal muscle (Kendrick-Jones, J. & Perry, S. V.) 207

Adenylate kinase, activity of, in developing skeletal muscle (Kendrick-Jones, J. & Perry, S. V.) 207

Adenylate kinase of human plasma, erythrocytes and platelets in relation to the degradation of adenosine diphosphate in plasma (Haslam, R. J. & Mills, D. C. B.) 773

Adenylyluridylylguanosine, loss of coding properties of, after photoreduction or hydration (Lee, S., Brown, G. L. & Kosinski, Z.) 25C

Adipose tissue, rat, effect of glucocorticoid hormones on fatty acid mobilization and re-esterification in (Jeanrenaud, B.) 627

Adrenal gland, bovine, acid phospholipase A in lysosomes of the medulla of (Blaschko, H., Smith, A. D., Winkler, H., van den Bosch, H. & van Deenen, L. L. M.) 30C

Adrenal gland, bovine, purification and properties of an acidic protein from chromaffin granules of the medulla of (Smith, A. D. & Winkler, H.) 483

Adrenal gland, simple method for the isolation of chromaffin granules of the medulla of, on a large scale (Smith, A. D. & Winkler, H.) 480

Aerobacter aerogenes, reversal of phenylarsenoxide inhibition of keto acid oxidation in suspensions of, by lipoic acid and other disulphides (Armstrong, M. & Webb, M.) 913

Aetiocholanolone, gas–liquid-chromatographic separation of carboxylic acid esters of androsterone, dehydroepiandrosterone and (Sadler, P. A. & Kellie, A. E.) 768

Aflatoxins B_1, G_1 and G_2, effects of, on protein and nucleic acid synthesis in rat liver (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258

Aflatoxins, interaction of, with purines and purine nucleosides (Clifford, J. I. & Rees, K. R.) 467

Alanine, contribution of, to gluconeogenesis in postnatal rat liver (Yeung, D. & Oliver, I. T.) 744

Albumin, synthesis of, by stable rat-liver polysomes (Wilson, S. H., Hill, H. Z. & Hoagland, M. B.) 567

Alcohol dehydrogenase, developmental changes in the activity of, in rat and guinea-pig liver (Räihä, N. C. R., Koskinen, M. & Pikkarainen, P.) 623

Alcohol dehydrogenase of *Pseudomonas* sp. M27, prosthetic group of (Anthony, C. & Zatman, L. J.) 19P

Aldolase, activity of, in developing skeletal muscle (Kendrick-Jones, J. & Perry, S. V.) 207
Aleurone layers, barley, cell-free system for the study of α-amylase synthesis in (Duffus, J. H.) 215
Algae, determination of molecular weights of biliproteins of, by gel filtration (Nolan, D. N. & O hEocha, C.) 39P
Alkali, formation of lysinoalanine during the treatment of wool by (Corfield, M. C., Wood, C., Robson, A., Williams, M. J. & Woodhouse, J. M.) 15C
Almond, hydrolysis of amygdalin by a β-glucosidase preparation obtained from (Haisman, D. R. & Knight, D. J.) 528
Almond, sweet, purification and physical properties of the α-galactosidase of (Malhotra, O. P. & Dey, P. M.) 508
Almond, sweet, specificity of the α-galactosidase of (Malhotra, O. P. & Dey, P. M.) 739
α-Amanitin, effect of, on ribonucleic acid synthesis and on ribonucleic acid polymerase in mouse liver (Stirpe, F. & Fiume, L.) 67P
D-Amino acid oxidase, fluorimetric determination of (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
Amino acid sequence, partial, for sheep haemoglobin A (Beale, D.) 129
Amino acids, ability of two classes of rat-liver ribosomes to effect the incorporation of, into protein *in vivo* and *in vitro* (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Amino acids, aromatic, and their derivatives, hydroxylation of (Jepson, J. B.) 3P
Amino acids, deficiency of, and rat-liver polysome stability (Wunner, W. H.) 71P
Amino acids, gluconeogenesis from, in neonatal rat liver (Yeung, D. & Oliver, I. T.) 744
Amino acids, *N*-terminal, and disulphide bridges of porcine pancreatic elastase (Brown, J. R., Kauffman, D. L. & Hartley, B. S.) 497
Amino acids, thin-layer chromatography of 1-dimethylaminonaphthalene-5-sulphonyl derivatives of, present in superfusates of cat cerebral cortex (Crowshaw, K., Jessup, S. J. & Ramwell, P. W.) 79
Amino acids, use of amino acid oxidases for the resolution of (Smith, B., Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 877
Amino groups, peptide, reversible blocking of, by maleic anhydride (Butler, P. J. G., Harris, J. I., Hartley, B. S. & Leberman, R.) 78P
Aminoacetone, role of, in L-threonine metabolism by *Bacillus subtilis* (Rahhal, D. A., Turner, J. M. & Willetts, A. J.) 73P
α-Aminoadipic acid, use of, for the biosynthesis of penicillin N and cephalosporin C by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 891
Ampullae of Lorenzini, chemical nature of the jelly of, in elasmobranch fish (Doyle, J.) 325
Amygdalin, enzymic hydrolysis of (Haisman, D. R. & Knight, D. J.) 528
α-Amylase, cell-free system for the study of the synthesis of, in barley aleurone layers (Duffus, J. H.) 215
β-Amyrin, biosynthesis of (Rees, H. H., Britton, G. & Goodwin, T. W.) 52P
Anabaena variabilis (blue-green alga), ribosomes from (Craig, I. W. & Carr, N. G.) 64P
Androsterone, gas–liquid-chromatographic separation of carboxylic acid esters of aetiocholanolone, dehydroepiandrosterone and (Sadler, P. A. & Kellie, A. E.) 768
Aromatic compounds, foreign, hydroxylation of, by mammalian systems (Boyland, E.) 1P
Arylsulphatase, regulation of synthesis of, in *Aspergillus nidulans* (Hussey, C. & Spencer, B.) 56P
Ascites cells, effects of potassium and magnesium deficiencies on composition and growth rates of, in mice (Ryan, M. P., Smyth, H. & Hingerty, D.) 44P
Ascites cells, Ehrlich, inhibition of accumulation of [1-^{14}C]-glycine and its incorporation into protein of, by DL-methionine (Kovačević, Z.) 535
Ascites cells, Ehrlich, studies on the nature of the regulation by purine nucleotides of adenine phosphoribosyltransferase and of hypoxanthine phosphoribosyltransferase from (Murray, A. W.) 271
Ascites-tumour cells, mouse, effects of sodium ions and potassium ions on glycine uptake by, in the presence and absence of selected metabolic inhibitors (Eddy, A. A., Mulcahy, M. F. & Thomson, P. J.) 863
Asparaginase, chicken-liver, purification of, and its effect on mouse lymphoma 6C3HED (Ohnuma, T., Bergel, F. & Bray, R. C.) 238
Aspartate, contribution of, to gluconeogenesis in postnatal rat liver (Yeung, D. & Oliver, I. T.) 744
Aspartic acid β-hydrazide, as a competitive inhibitor of chicken-liver asparaginase (Ohnuma, T., Bergel, F. & Bray, R. C.) 238
Aspergillus nidulans, regulation of arylsulphatase synthesis in (Hussey, C. & Spencer, B.) 56P
Aspergillus niger, effect of glucamylase from, on tissue glycogen and tissue glucamylase in the rat (Cuthbertson, W. F. J., Fleming, I. D. & Rice, M. S.) 307
Aulacomya magellanica, isolation of paramyosin from (Milstein, C. P.) 634
Azo-dye, alterations in microsomal cleavage of, in carbon tetrachloride- and dimethylnitrosamine-induced liver injury (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55
Azo-dye, carcinogenic, isolation of protein binding, from livers of rats given 4-dimethylaminoazobenzene (Ketterer, B., Ross-Mansell, P. & Whitehead, J. K.) 316

Bacillus cereus 569/H, some properties of two extracellular β-lactamases from (Kuwabara, S. & Abraham, E. P.) 27C
Bacillus subtilis, regulatory process in the de-repression of the synthesis of alkaline phosphatase in (Moses, V.) 650
Bacillus subtilis, role of aminoacetone in L-threonine metabolism by (Rahhal, D. A., Turner, J. M. & Willetts, A. J.) 73P
Bacteria, degradation of fluoro aromatic compounds to fluorocitrate and fluoroacetate by (Tranter, E. K. & Cain, R. B.) 22P
Bacteria, dicarboxylic acid catabolism by (Chapman, P. J. & Duggleby, R. G.) 7C
Bacteria, facultative, effect of nitrate in the regulation of metabolism in (Wimpenny, J. W. T. & Cole, J. A.) 20P
Barley, C-4- and C-6-specificity of β-glucosidase and β-galactosidase of (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609
Barley, biochemical investigations into the effect of 1,1,1-trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT) on (Lawler, P. D. & Rogers, L. J.) 44P
Barley, cell-free system for the study of α-amylase synthesis in the aleurone layers of (Duffus, J. H.) 215
Barley shoots, biosynthesis of the prenyl side chains of plastoquinone and related compounds in (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Barley shoots, nature, intracellular distribution and formation of terpenoid quinones in (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Benzylpenicillin, inhibition of mucopeptide synthesis by, in relation to irreversible fixation of the antibiotic by staphylococci (Rogers, H. J.) 90
Benzylpenicillin, prevention of the substrate-specific inactivation of staphylococcal penicillinase by (Dyke, K. G. H.) 641
Bile acids, formation of, from cholesterol incubated with rat-liver mitochondria (Mitropoulos, K. A. & Myant, N. B.) 472

Bile, effect of steroid drugs on the secretion of (Heikel, T. A. J.) 63P
Bile, rat, changes in the acid hydrolase content of, during anaesthesia (Pryor, B. E. & Slater, T. F.) 49P
Bile salts of the lamprey (Haslewood, G. A. D.) 6P
Biliproteins, algal, determination of molecular weights of, by gel filtration (Nolan, D. N. & Ó hEocha, C.) 39P
Blowfly (*Lucilia sericata*), conjugation of phenols with phosphate in (Binning, A., Darby, F. J., Heenan, M. P. & Smith, J. N.) 42
Bone tissue, hyaluronidase activity in lysosomes of (Vaes, G.) 802
Brain, 'compartmentation' of choline acetyltransferase within the synaptosomes obtained from (Fonnum, F.) 262
Brain, rat, activation and solubilization of particle-bound hexokinase in (Biesold, D. & Teichgräber, P.) 13C
Brain, rat, distribution of protein-bound *N*-acetylneuraminic acid in subcellular fractions of (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73
Brain, rat, preparation and properties of sialomucopolysaccharides obtained from (Brunngraber, E. G. & Brown, B. D.) 65
Bromine, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289
Bromocyclopentane, bromocyclohexane and bromocycloheptane, some metabolites of (James, S. P., Waring, R. H. & White, D. A.) 25P
p-Bromophenylpremercapturic acid, biosynthetic, isolation of (Gillham, B. & Young, L.) 24P
Brush border, intestinal, rat, localization of glucosyl fluoride hydrolase in (Barnett, J. E. G., Jarvis, W. T. S. & Munday, K. A.) 699
Brush borders, concentration of [1-^{3}H]cholecalciferol in, of the small intestine of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
n-Butyrate esters, gas–liquid chromatography of urinary 11-deoxy-17-oxo steroids as (Sadler, P. A. & Kellie, A. E.) 768
γ-Butyrobetaine, hydroxylation of, to carnitine (Lindstedt, G., Lindstedt, S., Midtvedt, T. & Tofft, M.) 19P

Cadmium, effect of injury caused by, on phospholipid fatty acids of rat testis, compared with the effects of vitamin E deficiency (Lee, D. J. W. & Barnes, M. McC.) 30P
Caeruloplasmin, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289
Calcium, precipitation of, as phosphate in the presence of chondroitin sulphates (Bowness, J. M. & Lee, K. H.) 382
Carbohydrate, effect of some growth conditions on the composition of, of a glycogen-deficient yeast mutant (Chester, V. E.) 55P
Carbohydrate, oxidative metabolism in rats given a diet high in (Mayes, P. A. & Felts, J. M.) 400
Carbohydrates, protein-bound, proteins and, of the serum of the developing pig (Dickerson, J. W. T. & Southgate, D. A. T.) 493
Carbon dioxide, comparative studies on the activity of carboxylases and other enzymes in relation to the new pathway of photosynthetic fixation of, in tropical grasses (Slack, C. R. & Hatch, M. D.) 660
Carbon dioxide, continuous recording technique for the measurement of, and its application to mitochondrial oxidation and decarboxylation reactions (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Carbon tetrachloride, alterations in microsomal electron transport, oxidative *N*-demethylation and azo-dye cleavage in liver injury induced by (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55
Carbon tetrachloride, steroid metabolism in liver damage induced by (Beary, M. E.) 54P
Carbonyl cyanide *m*-chlorophenylhydrazone, effect of, on respiration and respiration-dependent phosphorylation in *Escherichia coli* (Cavari, B. Z., Avi-Dor, Y. & Grossowicz, N.) 601
Carboxylases, comparative studies on the activity of, and other enzymes in relation to the new pathway of photosynthetic carbon dioxide fixation in tropical grasses (Slack, C. R. & Hatch, M. D.) 660
Carnitine, hydroxylation of γ-butyrobetaine to (Lindstedt, G., Lindstedt, S., Midtvedt, T. & Tofft, M.) 19P
Carotenoids, identification of, by their adsorption characteristics (Davies, B. H.) 51P
Cartilage, compartments and components in calcium gradients during calcification in (Bowness, J. M. & Lee, K. H.) 382
Cartilage, pharyngeal, pig, protein–polysaccharide complexes of (Muir, H. & Jacobs, S.) 367
Cations, bivalent, inhibition of pyruvate oxidation and disulphide reduction by, in mitochondria and bacteria (Armstrong, M. & Webb, M.) 913
Cells, ascites, Ehrlich, inhibition of accumulation of [1-^{14}C]glycine and its incorporation into protein of, by DL-methionine (Kovačević, Z.) 535
Cells, ascites, Ehrlich, studies on the nature of the regulation by purine nucleotides of adenine phosphoribosyltransferase and of hypoxanthine phosphoribosyltransferase from (Murray, A. W.) 271
Cells, ascites-tumour, mouse, effects of sodium ions and potassium ions on glycine uptake by, in the presence and absence of selected metabolic inhibitors (Eddy, A. A., Mulcahy, M. F. & Thomson, P. J.) 863
Cells, HeLa, origin of the polydispersity in sedimentation patterns of rapidly labelled nuclear ribonucleic acid of (Bramwell, M. E. & Harris, H.) 816
Cephalosporin C, biosynthesis of penicillin N and, by a *Cephalosporium* sp. (Smith, B., Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 877
Cephalosporin C, role of valine in the biosynthesis of penicillin N and, by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 902
Cephalosporin C, use of α-aminoadipic acid for the biosynthesis of penicillin N and, by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 891
Cephalosporins, hydrolysis of, by a β-lactamase from *Bacillus cereus* 569/H (Kuwabara, S. & Abraham, E. P.) 27C
Cephalosporium sp., biosynthesis of penicillin N and cephalosporin C by (Smith, B., Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 877
Cephalosporium sp., role of valine in the biosynthesis of penicillin N and cephalosporin C by (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 902
Cephalosporium sp., use of α-aminoadipic acid for the biosynthesis of penicillin N and cephalosporin C by (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 891
Cerebral cortex, cat, thin-layer, chromatography of 1-dimethylaminonaphthalene-5-sulphonyl derivatives of amino acids present in superfusates of (Crowshaw, K., Jessup, S. J. & Ramwell, P. W.) 79
Chemostat, observations on transient conditions in (Ware, G. C. & Thompson, A. S.) 59P
Chenodeoxycholic acid, formation of, from cholesterol incubated with rat-liver mitochondria (Mitropoulos, K. A. & Myant, N. B.) 472
Chick embryo, changes in the chemical composition and the enzymic activities of hepatic microsomes of, during development (Pollak, J. K. & Ward, D. B.) 730
Chloramine-T, labelling of ox insulin with ^{131}I in the presence of (Glover, J. S., Salter, D. N. & Shepherd, B. P.) 120
Chloramine-T, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289

Chloramphenicol, effect of, on alkaline phosphatase and peptide synthesis in *Bacillus subtilis* (Moses, V.) 650

Chloramphenicol, effect of, on the mitochondria of *Polytomella caeca* (Evans, D. A. & Lloyd, D.) 22P

Chloropseudomonas ethylicum, carboxylic acid-cycle enzymes in (Callely, A. G. & Fuller, R. C.) 74P

[1-^{3}H]Cholecalciferol, intracellular distribution of, in the small intestine of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165

Cholesterol, enzymic hydroxylation of, by microsomal preparations of rat liver (Mitton, J. R. & Boyd, G. S.) 17P

Cholesterol esterase, a pH-stat investigation of the effect of varying the mode of presentation of sterol ester on the apparent activity of (Coutts, J. R. T. & Stansfield, D. A.) 55P

Cholesterol, exchange of, between plasma and membranes (Graham, J. M. & Green, C.) 16C

Cholesterol, formation of lithocholic acid, chenodeoxycholic acid and α- and β-muricholic acids from, incubated with rat-liver mitochondria (Mitropoulos, K. A. & Myant, N. B.) 472

Cholesterol, inhibition of absorption of, by 'foreign' sterol (Booth, R. & Glover, J.) 29P

Cholesterol, steroid hydroxylation and the enzyme system cleaving the side chain of, in rat ovary (Sulimovici, S. & Boyd, G. S.) 16P

Cholesterol, steroid hydroxylation in the adrenal cortex and the enzyme system cleaving the side chain of (Simpson, E. R. & Boyd, G. S.) 17P

Choline acetyltransferase, 'compartmentation' of, within the synaptosome (Fonnum, F.) 262

Chondroitin sulphates, effects of, on mineralization *in vitro* (Bowness, J. M. & Lee, K. H.) 382

Chromaffin granules, adrenal, simple method for the isolation of, on a large scale (Smith, A. D. & Winkler, H.) 480

Chromaffin granules, purification and properties of an acidic protein from, of bovine adrenal medulla (Smith, A. D. & Winkler, H.) 483

Chromanols, incorporation of [^{14}C]methionine into quinones and, by *Hevea brasiliensis* latex (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C

α-Chymotrypsin, binding of inhibitors to, at alkaline pH (Johnson, C. H. & Knowles, J. R.) 428

Chymotrypsin, *p*-nitrophenyl N^2-acetyl-N^1-benzylcarbazate as a new reagent for determining the absolute molarity of solutions of (Elmore, D. T. & Smyth, J. J.) 37P

Citrate, colorimetric methods of assay of (Spencer, A. F. & Lowenstein, J. M.) 342

Citrate, content of, in liver and kidney of rat in various metabolic states and in fluoroacetate poisoning (Spencer, A. F. & Lowenstein, J. M.) 342

Citric acid cycle, mechanism of the inhibition of, by oxalomalate and γ-hydroxy-α-oxoglutarate (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19

Cloxacillin, substrate-specific inactivation of staphylococcal penicillinase by (Dyke, K. G. H.) 641

Coenzyme A, mechanism of synthesis of 3-hydroxy-3-methylglutaryl derivative of (Middleton, B.) 6P

Coenzyme B_{12}, *see* 5′-Deoxyadenosylcobalamin

Collagen, action of semicarbazide on the aggregation of (Convy, S. & Wynn, C. H.) 413

Copper, effect of deficiency of, on the induction of tryptophan pyrrolase in chick liver by hydrocortisone (Kim, C. S. & Hill, C. H.) 256

Cortex, brain, cat, thin-layer chromatography of 1-dimethylaminonaphthalene-5-sulphonyl derivatives of amino acids present in superfusates of (Crowshaw, K., Jessup, S. J. & Ramwell, P. W.) 79

Cortisol, effect of, on fatty acid mobilization and re-esterification in rat adipose tissue (Jeanrenaud, B.) 627

Cortisol, effects of actinomycin D and, *in vitro* on the hormone-sensitive lipase of adipose tissue (Stafford, W. L.) 75P

Costelytra zealandica, *see* Grass grub

Cotyledons, degradation of ribonucleic acid of, in *Pisum arvense* (Barker, G. R. & Hollinshead, J. A.) 230

o-Coumaric acid, conversion of, into dicoumarol by fungi (Bellis, D. M., Spring, M. S. & Stoker, J. R.) 202

Coumarin, stimulation of liver processing enzymes by derivatives of (Feuer, G. & Golberg, L.) 13P

Creatine kinase, activity of, in developing skeletal muscle (Kendrick-Jones, J. & Perry, S. V.) 207

Creatine kinase, isoenzymes of, in ox cerebral cortex (Brownlow, E. K. & Gammack, D. B.) 47P

Cyclopropane acids, formation of, in *Escherichia coli* (Knivett, V. A. & Cullen, J.) 299

Cytochrome *P*-450, microsomal, effect of halogenated hydrocarbons on (McLean, A. E. M.) 13P

Cytochrome *P*-450, role of, in the hydroxylation of lipid-soluble compounds in liver microsomes (Orrenius, S. & Ernster, L.) 3P

Cytochromes, reactivity of, and haemoproteins (Chance, B.) 1

Cytoplasm, rat-liver, redox state of free nicotinamide–adenine dinucleotide in (Williamson, D. H., Lund, P. & Krebs, H. A.) 514

DDT, *see* 1,1,1-Trichloro-2,2-bis-(*p*-chlorophenyl)ethane

Dehydroepiandrosterone, gas–liquid-chromatographic separation of carboxylic acid esters of androsterone, aetiocholanolone and (Sadler, P. A. & Kellie, A. E.) 768

N-Demethylation, oxidative, microsomal, alterations in, in carbon tetrachloride- and dimethylnitrosamine-induced liver injury (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55

5′-Deoxyadenosylcobalamin, relation of hydrogen exchange between water and, to the role of the coenzyme in ribonucleotide reduction (Hogenkamp, H. P. C., Ghambeer, R. K., Brownson, C. & Blakley, R. L.) 5C

11-Deoxy-17-oxo steroids, urinary, gas–liquid chromatography of carboxylic acid esters of (Sadler, P. A. & Kellie, A. E.) 768

Deoxyribonuclease, characterization of the activity of, induced by infection with herpes virus (Morrison, J. M. & Keir, H. M.) 70P

Deoxyribonucleic acid, calf-thymus, interaction of aflatoxins B_1, G_1 and G_2 with (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258

Deoxyribonucleic acid, evaluation of the action of deoxyribonucleic acid polymerase in relation to the replication of, *in vivo* (Keir, H. M.) 61P

Deoxyribonucleic acid, interaction of homologues of spermine with, and with bacterial protoplasts (Stevens, L.) 811

Deoxyribonucleic acid, relationship between content of, iron deficiency and ribonucleoside triphosphate-dependent breakdown of deoxyribonucleic acid by *Mycobacterium smegmatis* (Winder, F. G. & Coughlan, M. P.) 67P

Deoxyribonucleic acid, some characteristics of the ribonucleoside triphosphate-dependent system for the breakdown of, from *Mycobacterium smegmatis* (Winder, F. G. & Coughlan, M. P.) 59P

Deoxyribonucleic acid, stereochemical restrictions in the construction of the model of the B-form of the double helix of (Lewin, S.) 8P

Deoxyribonucleic acid, weak binding of aflatoxin B_1 to, *in vitro* (Clifford, J. I. & Rees, K. R.) 467

Deoxyribonucleotides, relation of hydrogen exchange between deoxyadenosylcobalamin and water to the role of the coenzyme in the reduction of ribonucleotides to (Hogenkamp, H. P. C., Ghambeer, R. K., Brownson, C. & Blakley, R. L.) 5c

Desulfovibrio, stimulation of the phosphoroclastic system of, by nucleoside triphosphates (Yates, M. G.) 32c

Dexamethasone, effect of, on fatty acid mobilization and re-esterification in rat adipose tissue (Jeanrenaud, B.) 627

Diabetes, effect of, on the citrate content of liver and kidney of the rat (Spencer, A. F. & Lowenstein, J. M.) 342

Diabetes, effect of, on the redox state of free nicotinamide–adenine dinucleotide in rat-liver mitochondria (Williamson, D. H., Lund, P. & Krebs, H. A.) 514

Diamine oxidase, identity of, with histaminase (Smith, J. K.) 110

Diamines, oxidation of, by placental histaminase (Smith, J. K.) 110

Dicarboxylic acids, catabolism of, by bacteria (Chapman, P. J. & Duggleby, R. G.) 7c

Dicarboxylic acids, species differences in the inhibition of glutathione *S*-aryltransferase by phthaleins and (Clark, A. G., Darby, F. J. & Smith, J. N.) 49

Dichromate, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289

Dicoumarol, biosynthesis of, from *o*-coumaric acid by fungi (Bellis, D. M., Spring, M. S. & Stoker, J. R.) 202

Diet, effect of, on oxidative metabolism in the rat (Mayes, P. A. & Felts, J. M.) 400

Diet, effect of, on the citrate content of liver and kidney of the rat (Spencer, A. F. & Lowenstein, J. M.) 342

Diet, low-fat, effect of, on some enzymes of rat tissue (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550

Diethyl 4-nitrophenyl phosphorothionate (parathion), studies on the metabolism of, *in vitro* (Neal, R. A.) 183

4-Dimethylaminoazobenzene, effect of a single intraperitoneal dose of, on the rough-surfaced endoplasmic reticulum of the liver of the rat (Ketterer, B., Holt, S. J. & Ross-Mansell, P.) 692

4-Dimethylaminoazobenzene, isolation of carcinogen-binding protein from livers of rats given (Ketterer, B., Ross-Mansell, P. & Whitehead, J. K.) 316

1-Dimethylaminonaphthalene-5-sulphonylamino acids, thin-layer chromatography of (Crowshaw, K., Jessup, S. J. & Ramwell, P. W.) 79

Dimethylnitrosamine, alterations in microsomal electron transport, oxidative *N*-demethylation and azo-dye cleavage in liver injury induced by (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55

NN-Dimethyl-*p*-phenylenediamine, oxidation of, by oxidizing agents and by caeruloplasmin (Curzon, G.) 289

Disulphide and thiol contents of immunologically related ovalbumins (Gilmore, L. A. & Fothergill, J. E.) 39p

Disulphide bonds, inter-chain, effect of iodination of insulin on the reactivity of, towards sodium sulphite (Rosa, U., Massaglia, A., Pennisi, F., Cozzani, I. & Rossi, C. A.) 407

Disulphide bridges, *N*-terminus and, of porcine pancreatic elastase (Brown, J. R., Kauffman, D. L. & Hartley, B. S.) 497

Disulphides, reversal of phenylarsenoxide inhibition of keto acid oxidation in mitochondrial and bacterial suspensions by (Armstrong, M. & Webb, M.) 913

Ehrlich ascites cells, inhibition of accumulation of [1-^{14}C]-glycine and its incorporation into protein of, by DL-methionine (Kovačević, Z.) 535

Ehrlich ascites cells, studies on the nature of the regulation by purine nucleotides of adenine phosphoribosyltransferase and of hypoxanthine phosphoribosyltransferase from (Murray, A. W.) 271

Elasmobranch fish, chemical nature of the jelly from the glands of Lorenzini of (Doyle, J.) 325

Elastase, pancreatic, pig, *N*-terminus and disulphide bridges of (Brown, J. R., Kauffman, D. L. & Hartley, B. S.) 497

Electron transport, microsomal, alterations in, in carbon tetrachloride- and dimethylnitrosamine-induced liver injury (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55

Electron transport, reactivity of haemoproteins and cytochromes and (Chance, B.) 1

Emulsin, almond, C-4- and C-6-specificity of glycosidase activity of (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609

Enolase, role of, in the regulation of phosphoenolpyruvate synthesis in pigeon liver (Gevers, W.) 141

Enzymes, respiratory, characteristic pattern of, in cytoplasmic 'petite' strains of *Saccharomyces cerevisiae* as revealed by multiple enzyme analysis (Roodyn, D. B. & Wilkie, D.) 3c

Epididymis, rat, C-4- and C-6-specificity of β-galactosidase activity of (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609

16-Epioestriol, interconversion of oestriol and, by avian liver tissue *in vitro* (Raud, H. R. & Hobkirk, R.) 724

Epiphysis, puppy, effects of chondroitin sulphate of, on mineralization *in vitro* (Bowness, J. M. & Lee, K. H.) 382

Ergosterol, transfer of hydrogen from C-24 to C-25 in the biosynthesis of (Akhtar, M., Hunt, P. F. & Parvez, M. A.) 616

Erythrocytes, adenylate kinase of human plasma, platelets and, in relation to the degradation of adenosine diphosphate in plasma (Haslam, R. J. & Mills, D. C. B.) 773

Erythrocytes, effect of cell age on the fatty acid composition of, in rats on different dietary regimes (Walker, B. L. & Yurkowski, M.) 218

Escherichia coli, effect of carbonyl cyanide *m*-chlorophenylhydrazone on respiration and respiration-dependent phosphorylation in (Cavari, B. Z., Avi-Dor, Y. & Grossowicz, N.) 601

Escherichia coli, effect of pyruvate on hexose metabolism by (Morgan, M. J. & Kornberg, H. L.) 57p

Escherichia coli, electrophoresis in polyacrylamide gels of different 'soluble' ribonucleic acid preparations from (Cannon, M. & Richards, E. G.) 23c

Escherichia coli, extracellular lipopolysaccharide–phospholipid–protein complex produced by, grown under lysine-limiting conditions (Knox, K. W., Cullen, J. & Work, E.) 192

Escherichia coli, fatty acid synthesis in (Knivett, V. A. & Cullen, J.) 299

Escherichia coli, interaction of homologues of spermine with deoxyribonucleic acid and with protoplasts of (Stevens, L.) 811

Escherichia coli, intracellular protein breakdown in growing cells of (Willetts, N. S.) 462

Escherichia coli, intracellular protein breakdown in non-growing cells of (Willetts, N. S.) 453

Escherichia coli, involvement of the *lac* regulatory genes in catabolite repression in (Palmer, J. & Moses, V.) 358

Escherichia coli, polynucleotide species distributions in ribosomal ribonucleic acid of (Midgley, J. E. M. & McIlreavy, D. J.) 50p

Escherichia coli, pool sizes of metabolic intermediates and their relation to glucose repression of β-galactosidase synthesis in (Prevost, C. & Moses, V.) 349

Escherichia coli, relationship of 4-hydroxybenzoic acid to lysine and methionine formation in (Jones, R. G. W. & Lascelles, J.) 709

Escherichia coli, ubiquinone deficiency in an auxotroph of, requiring 4-hydroxybenzoic acid (Jones, R. G. W.) 714

Escherichia coli, utilization of exogenous thymine by (Stacey, K. A.) 68p

Euglena gracilis, nature, intracellular distribution and formation of terpenoid quinones in (Threlfall, D. R. & Goodwin, T. W.) 573

Fat, brown, metabolism of, in newborn rabbits exposed to cold (Knight, B. L.) 11P
Fat, effect on some enzymes of rat tissue of diets low in (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550
Fat, oxidative metabolism in rats given a diet high in (Mayes, P. A. & Felts, J. M.) 400
Fatty acids, analysis of, of *Escherichia coli* cells, walls, extracellular phospholipid and lipopolysaccharide (Knox, K. W., Cullen, J. & Work, E.) 192
Fatty acids, effect of cell age on the composition of, of erythrocytes in rats on different dietary regimes (Walker, B. L. & Yurkowski, M.) 218
Fatty acids, effect of glucocorticoid hormones on the mobilization and re-esterification of, in rat adipose tissue (Jeanrenaud, B.) 627
Fatty acids, effect of thyroidectomy on the pattern of, synthesized by mammary gland of lactating rats (Greenbaum, A. L., Walters, E. & McLean, P.) 720
Fatty acids, essential, effect of cell age on the erythrocyte fatty acid composition in rats on dietary regimes containing different amounts of (Walker, B. L. & Yurkowski, M.) 218
Fatty acids, free, oxidation of, in starved, fat-fed and carbohydrate-fed rats (Mayes, P. A. & Felts, J. M.) 400
Fatty acids, metabolism of, by the isolated perfused rat heart (Olson, R. E. & Hoeschen, R. J.) 796
Fatty acids, polyunsaturated, effect of, on the stability of lysosomes in the kidneys of rats (Moore, T., Sharman, I. M., Stanton, M. G. & Dingle, J. T.) 923
Fatty acids, stereochemistry of α-oxidation of, in plants (Hitchcock, C., James, A. T. & Morris, L. J.) 8P
Fatty acids, synthesis of, in *Escherichia coli* (Knivett, V. A. & Cullen, J.) 299
Ferricyanide, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289
Ferritin, pinocytic uptake of, by isolated tomato-fruit protoplasts (DeLeo, P. & Cocking, E. C.) 9P
Fibrils, action of semicarbazide on the formation of, from tropocollagen solutions (Convy, S. & Wynn, C. H.) 413
Fluoroacetate, citrate content of liver and kidney of rat poisoned by (Spencer, A. F. & Lowenstein, J. M.) 342
Fluorocitrate and fluoroacetate, degradation of fluoro aromatic compounds to, by bacteria (Tranter, E. K. & Cain, R. B.) 22P
Fructogenesis by human placental villi (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Fructose 1,6-diphosphatase, activity of, in white muscle and red muscle (Opie, L. H. & Newsholme, E. A.) 391
Fructose 1-6-diphosphatase, effect of diets low in fat content on the activity of, in rat tissues (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550
β-D-Fucosidase, association of activity of, with barley β-glucosidase, limpet β-glucosidase, almond emulsin and rat epididymal β-galactosidase (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609
Fumarate hydratase, formation of oxaloacetate from unnatural (—)-tartrate by (Nakamura, S. & Ogata, H.) 77P
Fungi, thermophilic, conversion of *o*-coumaric acid into dicoumarol by (Bellis, D. M., Spring, M. S. & Stoker, J. R.) 202

β-Galactosidase, C-4- and C-6-specificity of β-glucosidase and (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609
β-Galactosidase, intracellular breakdown of, in non-growing cells of *Escherichia coli* (Willetts, N. S.) 453
β-Galactosidase, involvement of the *lac* regulatory genes in catabolite repression of the synthesis of, in *Escherichia coli* (Palmer, J. & Moses, V.) 358
β-Galactosidase, pool sizes of metabolic intermediates and their relation to glucose repression of synthesis of, in *Escherichia coli* (Prevost, C. & Moses, V.) 349
α-Galactosidase, sweet-almond, purification and physical properties of (Malhotra, O. P. & Dey, P. M.) 508
α-Galactosidase, sweet-almond, specificity of (Malhotra, O. P. & Dey, P. M.) 739
β-Galactosidases, small-intestinal, rat, influence of pH on the hydrolysis of different substrates by (Dahlqvist, A. & Asp, N. G.) 86
Gangliosides, distribution of, in subcellular fractions of rat brain (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73
Genes, regulatory, *lac*, involvement of, in catabolite repression in *Escherichia coli* (Palmer, J. & Moses, V.) 358
Gliocladium roseum, incorporation of 5[^{14}C]-methylorcylaldehyde into gliorosein by (Steward, M. W. & Packter, N. M.) 9P
Gliorosein, incorporation of 5[^{14}C]-methylorcylaldehyde into, by *Gliocladium roseum* (Steward, M. W. & Packter, N. M.) 9P
Glucagon, effect of, on gluconeogenesis in the isolated perfused rat kidney (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852
Glucamylase, fungal, effect of, on tissue glycogen and tissue glucamylase in the rat (Cuthbertson, W. F. J., Fleming, I. D. & Rice, M. S.) 307
Glucocorticoid hormones, effect of, on fatty acid mobilization and re-esterification in rat adipose tissue (Jeanrenaud, B.) 627
Glucogenesis by human placental villi (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Gluconeogenesis, activities of enzymes involved in, in red muscle and white muscle (Opie, L. H. & Newsholme, E. A.) 391
Gluconeogenesis, contribution of propionate to, in sheep (Leng, R. A., Steel, J. W. & Luick, J. R.) 785
Gluconeogenesis from amino acids in neonatal rat liver (Yeung, D. & Oliver, I. T.) 744
Gluconeogenesis in the isolated perfused rat kidney (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852
Glucosamine, incorporation of, into guinea-pig serum glycoproteins (Simkin, J. L. & Jamieson, J. C.) 153
Glucose, contribution of propionate to the synthesis of, in sheep (Leng, R. A., Steel, J. W. & Luick, J. R.) 785
Glucose, formation and utilization of, in the isolated perfused rat kidney (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852
Glucose, involvement of the *lac* regulatory genes in repression of β-galactosidase synthesis by, in *Escherichia coli* (Palmer, J. & Moses, V.) 358
Glucose, metabolism of, by human placental villi (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Glucose, oxidation of, in starved, fat-fed and carbohydrate-fed rats (Mayes, P. A. & Felts, J. M.) 400
Glucose 6-phosphatase, changes in the activity of, in hepatic microsomes of the chick embryo during development (Pollak, J. K. & Ward, D. B.) 730
Glucose 6-phosphate dehydrogenase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420
Glucose 6-phosphate dehydrogenase, effect of diets low in fat content on the activity of, in rat tissues (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550
Glucose, pool sizes of metabolic intermediates and their relation to repression of β-galactosidase synthesis by, in *Escherichia coli* (Prevost, C. & Moses, V.) 349

β-Glucosidase, C-4- and C-6-specificity of β-galactosidase and (Conchie, J., Gelman, A. L. & Levvy, G. A.) 609
α-D-Glucosidase, localization of, in the brush border of rat intestinal mucosa (Barnett, J. E. G., Jarvis, W. T. S. & Munday, K. A.) 699
β-Glucosidase preparation, almond, hydrolysis of amygdalin by (Haisman, D. R. & Knight, D. J.) 528
NO-Glucosiduronic acid of *N*-acetyl-*N*-phenylhydroxylamine, biosynthetic preparation of (Kato, K., Ide, H., Hirohata, I. & Fishman, W. H.) 647
α-D-Glucosyl fluoride, hydrolysis of the carbon–fluorine bond of, by rat intestinal mucosa (Barnett, J. E. G., Jarvis, W. T. S. & Munday, K. A.) 699
N^1-Glucuronide, formation of, in primates given sulphamethomidine (Bridges, J. W., Walker, S. R. & Williams, R. T.) 23P
Glutaconate, colorimetric method of assay of (Spencer, A. F. & Lowenstein, J. M.) 342
Glutamate, contribution of, to gluconeogenesis in postnatal rat liver (Yeung, D. & Oliver, I. T.) 744
Glutamate dehydrogenase, effects of pH and temperature on, of the wild-type and a mutant form of *Neurospora crassa* (Fincham, J. R. S. & Garner, H. R.) 705
Glutamate dehydrogenase systems, equilibrium constants of, in rat liver (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
Glutamate dehydrogenases, properties of, from several tissues of the Japanese quail (Freedland, R. A., Martin, K. D. & McFarland, L. Z.) 6P
Glutamine, formation of, in the isolated perfused rat kidney (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852
Glutathione *S*-aryltransferase, species differences in the inhibition of, by phthaleins and dicarboxylic acids (Clark, A. G., Darby, F. J. & Smith, J. N.) 49
Glutathione peroxidase, intracellular, with a lipid peroxide as substrate (O'Brien, P. J. & Little, C.) 31P
Glutathione, [^{35}S]thiosulphate oxidation by rat-liver mitochondria in the presence of (Koj, A., Frendo, J. & Janik, Z.) 791
Glycerol ethers, biosynthesis of plasmalogens from (Malins, D. C.) 29P
Glycine, effects of sodium ions and potassium ions on the uptake of, by mouse ascites-tumour cells in the presence and absence of selected metabolic inhibitors (Eddy, A. A., Mulcahy, M. F. & Thomson, P. J.) 863
[1-^{14}C]Glycine, inhibition of accumulation of, and its incorporation into protein of Ehrlich ascites-carcinoma cells by DL-methionine (Kovačević, Z.) 535
Glycogen, tissue, effect of fungal glucamylase on, in the rat (Cuthbertson, W. F. J., Fleming, I. D. & Rice, M. S.) 307
Glycopeptides, investigations on the oligosaccharide units of, obtained from type K and type L immunoglobulin A (Clamp, J. R. & Putnam, F. W.) 225
Glycoproteins, acidic, studies on the nature of microsome-bound substances involved in the biosynthesis of, of guinea-pig serum (Simkin, J. L. & Jamieson, J. C.) 38P
Glycoproteins, acidic, studies on the site of biosynthesis of, of guinea-pig serum (Simkin, J. L. & Jamieson, J. C.) 153
Glycoproteins, distribution of, in subcellular fractions of rat brain (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73
Glycoproteins, heterogeneity of, in ovomucoid (Melamed, M. D.) 805
Glycoproteins, preparation and properties of, from rat brain (Brunngraber, E. G. & Brown, B. D.) 65
Glyoxylate, serine and, in the biosynthesis of chloroplast terpenoids (Shah, S. P. J., Rogers, L. J. & Goodwin, T. W.) 52P
Glyoxylate, transamination of a protein in the presence of acetate, nickel ions and (Dixon, H. B. F.) 38P
Grass grub (*Costelytra zealandica*), conjugation of phenols with phosphate in (Binning, A., Darby, F. J., Heenan, M. P. & Smith, J. N.) 42
Grass grub (*Costelytra zealandica*), inhibition of glutathione *S*-aryltransferase of, by phthaleins and dicarboxylic acids (Clark, A. G., Darby, F. J. & Smith, J. N.) 49
Grasses, tropical, comparative studies on the activity of carboxylases and other enzymes in relation to the new pathway of photosynthetic carbon dioxide fixation in (Slack, C. R. & Hatch, M. D.) 660
Growth hormone, measurement of, released by ox anterior-pituitary slices *in vitro* (Schofield, J. G.) 331

Haemoglobin A, sheep, partial amino acid sequence for (Beale, D.) 129
Haemoproteins, reactivity of, and cytochromes (Chance, B.) 1
Halobacterium halobium, sedimentation, viscosity and partial specific volumes of membrane proteins and lipoproteins of (Brown, A. D. & Netschey, A.) 24
Hartmanella castellani, metabolic changes in, during encystment (Griffiths, A. J., Lloyd, D., Roach, G. I. & Hughes, D. E.) 21P
Heart, rat, perfused, isolated, utilization of endogenous lipid by (Olson, R. E. & Hoeschen, R. J.) 796
HeLa cells, origin of the polydispersity in sedimentation patterns of rapidly labelled nuclear ribonucleic acid of (Bramwell, M. E. & Harris, H.) 816
Hen, interconversion of 16-epioestriol and oestriol by liver tissue of, *in vitro* (Raud, H. R. & Hobkirk, R.) 724
Heparin, evidence for the covalent association of protein and, in mast-cell granules (Lloyd, A. G., Bloom, G. D. & Balazs, E. A.) 76P
Herpes virus, characterization of the deoxyribonuclease activity induced by infection with (Morrison, J. M. & Keir, H. M.) 70P
Herpes virus, new transfer ribonucleic acid in BHK 21/C13 cells infected with (Hay, J., Subak-Sharpe, H. & Shepherd, W. M.) 69P
Hevea brasiliensis, incorporation of [^{14}C]methionine into chromanols and quinones by latex of (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C
n-Hexadecane, oxidation of, by guinea-pig small-intestinal mucosa (Mitchell, M. P. & Hübscher, G.) 23P
Hexokinase, activity of, in human placenta and foetal membranes (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Hexokinase in the mucosa of the small intestine of the rat and guinea pig (Shakespeare, P., Srivastava, L. M. & Hübscher, G.) 10P
Hexokinase, particle-bound, activation and solubilization of, in rat brain (Biesold, D. & Teichgräber, P.) 13C
Hexosamine, protein-bound, distribution of, in subcellular fractions of rat brain (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73
Hexose, effect of pyruvate on the metabolism of, by *Escherichia coli* (Morgan, M. J. & Kornberg, H. L.) 57P
Histaminase, placental, purification and properties of (Smith, J. K.) 110
L-Histidine, use of the logarithmic transformation in the calculation of the kinetic parameters for the transport of, by rat small intestine (Barber, H. E., Welch, B. L. & Mackay, D.) 251
Histidinol dehydrogenase, purification and properties of, from *Neurospora crassa* (Creaser, E. H., Bennett, D. J. & Drysdale, R. B.) 36
Histones, changes in the phosphorylation of, during liver regeneration (Ord, M. G. & Stocken, L. A.) 5P
Histones, thermally favoured hydrogen bonds in (Lewin, S. & Jacobson, R. E.) 66P

Housefly (*Musca domestica*), conjugation of phenols with phosphate in (Binning, A., Darby, F. J., Heenan, M. P. & Smith, J. N.) 42
Hyaluronidase, action of, on the light fraction of protein–polysaccharide complex of bovine nasal septa (Luscombe, M. & Phelps, C. F.) 103
Hyaluronidase, activity of, in lysosomes of bone tissue (Vaes, G.) 802
Hydrocortisone, effect of copper deficiency on the induction of tryptophan pyrrolase in chick liver by (Kim, C. S. & Hill, C. H.) 256
Hydrogen bonds, overriding of influences opposing (Lewin, S.) 65P
Hydrogen bonds, thermally favoured, in histones (Lewin, S. & Jacobson, R. E.) 66P
Hydrogen, relation of the exchange of, between deoxyadenosylcobalamin and water to the role of the coenzyme in ribonucleotide reduction (Hogenkamp, H. P. C., Ghambeer, R. K., Brownson, C. & Blakley, R. L.) 5C
Hydrogen, transfer of, from C-24 to C-25 in ergosterol biosynthesis (Akhtar, M., Hunt, P. F. & Parvez, M. A.) 616
Hydrolases, acid, changes in the content of, of rat bile during anaesthesia (Pryor, B. E. & Slater, T. F.) 49P
4-Hydroxybenzoic acid, relationship of, to lysine and methionine formation in *Escherichia coli* (Jones, R. G. W. & Lascelles, J.) 709
4-Hydroxybenzoic acid, ubiquinone deficiency in an auxotroph of *Escherichia coli* requiring (Jones, R. G. W.) 714
β-Hydroxybutyrate dehydrogenase systems, equilibrium constants of, in rat liver (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
3-Hydroxy-3-methylglutaryl-coenzyme A, mechanism of synthesis of (Middleton, B.) 6P
3-Hydroxy-19-nor[21-^{14}C]pregna-1,3,5(10)-trien-20-one, metabolism of, in the rabbit (Schulster, D. & Kellie, A. E.) 759
γ-Hydroxy-α-oxoglutarate, mechanism of the inhibition of the citric acid cycle by (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19
3-Hydroxytrisnorlanost-8-en-24-al, synthesis of, and its conversion into [24-^{3}H]- and [26,27-$^{14}C_2$]-lanosterol (Akhtar, M., Hunt, P. F. & Parvez, M. A.) 616
Hypophysectomy, changes in the enzyme pattern of the mammary gland of the lactating rat after (Jones, E. A.) 420
Hypoxanthine phosphoribosyltransferase, studies on the nature of the regulation by purine nucleotides of adenine phosphoribosyltransferase and, from Ehrlich ascites-tumour cells (Murray, A. W.) 271

Immunoglobulin A, oligosaccharide units containing 2-acetamido-2-deoxy-D-galactose *O*-glycosidically linked to serine in an (Dawson, G. & Clamp, J. R.) 5P
Immunoglobulin A, type K and type L, investigations on the oligosaccharide units of (Clamp, J. R. & Putnam, F. W.) 225
*scyllo*Inositol, occurrence and metabolism of, in the locust (Candy, D. J.) 666
Insects, occurrence and metabolism of *scyllo*inositol in (Candy, D. J.) 666
Insulin, effect of iodination of, on the reactivity of the inter-chain disulphide bonds towards sodium sulphite (Rosa, U., Massaglia, A., Pennisi, F., Cozzani, I. & Rossi, C. A.) 407
Insulin, ox, some factors that influence the iodination of (Glover, J. S., Salter, D. N. & Shepherd, B. P.) 120
Interferon, virus nucleic acid and the formation of (Skehel, J. J. & Burke, D. C.) 71P
Intestine, small, intracellular distribution of [1-^{3}H]-cholecalciferol in, of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
Intestine, small, rat, influence of pH on the hydrolysis of different substrates by the β-galactosidases of (Dahlqvist, A. & Asp, N. G.) 86
Intestine, small, rat, use of the logarithmic transformation in the calculation of the kinetic parameters for the transport of L-histidine and L-monoiodohistidine by (Barber, H. E., Welch, B. L. & Mackay, D.) 251
Iodide, carrier, effect of, on the labelling of ox insulin with ^{131}I by the iodine monochloride method (Glover, J. S., Salter, D. N. & Shepherd, B. P.) 120
Iodine, effect of reaction of insulin with, on the reactivity of the inter-chain disulphide bonds towards sodium sulphite (Rosa, U., Massaglia, A., Pennisi, F., Cozzani, I. & Rossi, C. A.) 407
Iodine monochloride, labelling of ox insulin with ^{131}I in the presence of (Glover, J. S., Salter, D. N. & Shepherd, B. P.) 120
Iodine monochloride, method for the iodination of ox growth hormone by using (Schofield, J. G.) 331
Iodine, oxidation of *NN*-dimethyl-*p*-phenylenediamine by (Curzon, G.) 289
Iodine, reactions of vitamin A with (Lucy, J. A. & Lichti, F. U.) 34P
Iron, Mössbauer evidence on the form of, in xanthine oxidase (Johnson, C. E., Knowles, P. F. & Bray, R. C.) 10C
Iron, relationship between deficiency of, deoxyribonucleic acid content and ribonucleoside triphosphate-dependent breakdown of deoxyribonucleic acid by *Mycobacterium smegmatis* (Winder, F. G. & Coughlan, M. P.) 67P
Isocitrate dehydrogenase, inhibition of, by oxalomalate and γ-hydroxy-α-oxoglutarate (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19
Isocitrate, effect of the oxidation of palmitoylcarnitine by rat-liver mitochondria on the mitochondrial oxidation of (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Isoniazid and the lipids of *Mycobacterium tuberculosis*, chromatographic studies of (Winder, F. G. & Rooney, S. A.) 58P

Keilin Memorial Lecture, the Second: The reactivity of haemoproteins and cytochromes (Chance, B.) 1
Keto acids, reversal of phenylarsenoxide inhibition of the oxidation of, in mitochondrial and bacterial suspensions by lipoic acid and other disulphides (Armstrong, M. & Webb, M.) 913
Kidney, citrate content of, of rat in various metabolic states and in fluoroacetate poisoning (Spencer, A. F. & Lowenstein, J. M.) 342
Kidney, human, lactate-dehydrogenase isoenzymes of (Plummer, D. T. & Leathwood, P. D.) 172
Kidney, mouse, fluorimetric determination of D-amino acid oxidase of (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
Kidney, rat, influence of vitamin E deficiency and its duration on the stability of lysosomes in (Moore, T., Sharman, I. M., Stanton, M. G. & Dingle, J. T.) 923
Kidney, rat, perfused, isolated, metabolic activities of (Nishiitsutsuji-Uwo, J. M., Ross, B. D. & Krebs, H. A.) 852

β-Lactamases, extracellular, two, some properties of, from *Bacillus cereus* 569/H (Kuwabara, S. & Abraham, E. P.) 27C
Lactate dehydrogenase, isoenzymes of, in red muscle and white muscle (Opie, L. H. & Newsholme, E. A.) 391
Lactate dehydrogenase, some properties of, found in human urine (Plummer, D. T. & Leathwood, P. D.) 172

Lactate dehydrogenase, subcellular localization of, in brain (Fonnum, F.) 262
Lactate dehydrogenase systems, equilibrium constants of, in rat liver (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
Lamprey, bile salts of (Haslewood, G. A. D.) 6P
[24-^{3}H]- and [26,27-$^{14}C_2$]-Lanosterol, synthesis of (Akhtar, M., Hunt, P. F. & Parvez, M. A.) 616
Lanthionine, formation of, during the treatment of wool by alkali (Corfield, M. C., Wood, C., Robson, A., Williams, M. J. & Woodhouse, J. M.) 15C
Latex, *Hevea brasiliensis*, incorporation of [^{14}C]methionine into chromanols and quinones by (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C
Leucine, ability of two classes of rat-liver ribosomes to effect the incorporation of, into protein *in vivo* and *in vitro* (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Leucine, incorporation of, into guinea-pig serum glycoproteins (Simkin, J. L. & Jamieson, J. C.) 153
Leucine, incorporation of, into protein by microsomal particles from regenerating rat liver (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280
Limpet (*Patella vulgata*), C-4- and C-6-specificity of β-glucosidase and β-galactosidase of (Conche, J., Gelman, A. L. & Levvy, G. A.) 609
Lipase, hormone-sensitive, effects of cortisol and of actinomycin D on, of adipose tissue (Stafford, W. L.) 75P
Lipid peroxide, effects of, on intracellular metabolism (O'Brien, P. J. & Green, R. C.) 32P
Lipid peroxide, effects of, on vitamin A (O'Brien, P. J.) 32P
Lipid peroxide, effects of, on vitamin E (O'Brien, P. J. & Titmus, G.) 33P
Lipid peroxide, intracellular glutathione peroxidase with, as substrate (O'Brien, P. J. & Little, C.) 31P
Lipids, analysis of, extracted from *Escherichia coli* cells, walls and extracellular lipopolysaccharide–phospholipid–protein complex (Knox, K. W., Cullen, J. & Work, E.) 192
Lipids, endogenous, utilization of, by the isolated perfused rat heart (Olson, R. E. & Hoeschen, R. J.) 796
Lipids of *Mycobacterium tuberculosis*, isoniazid and, chromatographic studies of (Winder, F. G. & Rooney, S. A.) 58P
Lipids, synthesis of, in perfused normal and atherosclerotic rabbit aortas (Bowyer, D. E., Howard, A. N. & Gresham, G. A.) 54P
Lipogenesis, effect of thyroidectomy on, by mammary gland of lactating rats (Greenbaum, A. L., Walters, E. & McLean, P.) 720
Lipoic acid, reversal of phenylarsenoxide inhibition of keto acid oxidation in mitochondrial and bacterial suspensions by (Armstrong, M. & Webb, M.) 913
Lipolysis, regulation of, in rat adipose tissue by glucocorticoid hormones (Jeanrenaud, B.) 627
Lipopolysaccharide–phospholipid–protein complex, extracellular, produced by *Escherichia coli* grown under lysine-limiting conditions (Knox, K. W., Cullen, J. & Work, E.) 192
Lipoprotein particles, isolation of, from bovine milk by a gel-filtration procedure (Gammack, D. B. & Gupta, B. B.) 72P
Lipoproteins, exchange of cholesterol in (Graham, J. M. & Green, C.) 16C
Lipoproteins, sedimentation, viscosity and partial specific volumes of, from the membrane of *Halobacterium halobium* (Brown, A. D. & Netschey, A.) 24
Lipoproteins, serum, patterns of, during 2-acetamidofluorene-induced carcinogenesis in the rat (Narayan, K. A.) 672
Lithocholic acid, formation of, from cholesterol incubated with rat-liver mitochondria (Mitropoulos, K. A. & Myant, N. B.) 472
Liver, activities of microsomal enzymes in relation to enlargement of (Golberg, L., Grasso, P., Feuer, G. & Gilbert, D.) 12P
Liver, changes in the phosphorylation of histones during the regeneration of (Ord, M. G. & Stocken, L. A.) 5P
Liver, chick, effect of copper deficiency on the induction of tryptophan pyrrolase in, by hydrocortisone (Kim, C. S. & Hill, C. H.) 256
Liver, chick-embryo, changes in the chemical composition and the enzymic activities of microsomes of, during development (Pollak, J. K. & Ward, D. B.) 730
Liver, chicken, purification of asparaginase from, and its effect on mouse lymphoma 6C3HED (Ohnuma, T., Bergel, F. & Bray, R. C.) 238
Liver, citrate content of, of rat in various metabolic states and in fluoroacetate poisoning (Spencer, A. F. & Lowenstein, J. M.) 342
Liver, enzyme changes in, in the developing rat (Bailey, E., Taylor, C. B. & Bartley, W.) 78P
Liver, hen, interconversion of 16-epioestriol and oestriol by homogenates of (Raud, H. R. & Hobkirk, R.) 724
Liver, isolation of carcinogen-binding protein from, of rats given 4-dimethylaminoazobenzene (Ketterer, B., Ross-Mansell, P. & Whitehead, J. K.) 316
Liver, pigeon, regulation of phosphoenolpyruvate synthesis in (Gevers, W.) 141
Liver, procedure for the separation of a cell supernatant free of mitochondria and nuclei from, enabling rapid sampling for coenzyme and substrate determinations (Delaney, V. B. & Slater, T. F.) 49P
Liver, rat, alterations in microsomal electron transport, oxidative *N*-demethylation and azo-dye cleavage in carbon tetrachloride- and dimethylnitrosamine-induced injury of (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55
Liver, rat and guinea-pig, developmental changes in alcohol-dehydrogenase activity in (Räihä, N. C. R., Koskinen, M. & Pikkarainen, P.) 623
Liver, rat, continuous recording technique for the measurement of carbon dioxide, and its application to oxidation and decarboxylation reactions of mitochondria of (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Liver, rat, effect of a single intraperitoneal dose of the hepatocarcinogen 4-dimethylaminoazobenzene on the rough-surfaced endoplasmic reticulum of (Ketterer, B., Holt, S. J. & Ross-Mansell, P.) 692
Liver, rat, effects of aflatoxins B_1, G_1 and G_2 on protein and nucleic acid synthesis in (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258
Liver, rat, formation of lithocholic acid, chenodeoxycholic acid and α- and β-muricholic acids from cholesterol incubated with mitochondria of (Mitropoulos, K. A. & Myant, N. B.) 472
Liver, rat, isolation and properties of polyribosomes and fragments of the endoplasmic reticulum from (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Liver, rat, mechanism of the inhibition of the citric cycle in, by oxalomalate and γ-hydroxy-α-oxoglutarate (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19
Liver, rat, neonatal, gluconeogenesis from amino acids in (Yeung, D. & Oliver, I. T.) 744
Liver, rat, protein synthesis by stable polysomes of (Wilson, S. H., Hill, H. Z. & Hoagland, M. B.) 567
Liver, rat, redox state of free nicotinamide–adenine dinucleotide in the cytoplasm and mitochondria of (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
Liver, rat, regenerating, protein synthesis by microsomal particles from (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280

Liver, rat, stability of messenger ribonucleic acid and ribosomes of (Wilson, S. H. & Hoagland, M. B.) 556
Liver, rat, [^{35}S]thiosulphate oxidation by mitochondria of, in the presence of glutathione (Koj, A., Frendo, J. & Janik, Z.) 791
Liver, sheep, inhibition of glutathione *S*-aryltransferase of, by phthaleins and dicarboxylic acids (Clark, A. G., Darby, F. J. & Smith, J. N.) 49
Liver, studies on the metabolism of diethyl 4-nitrophenyl phosphorothionate (parathion) by microsomes of, *in vitro* (Neal, R. A.) 183
Liver, synthesis of guinea-pig serum proteins by (Simkin, J. L. & Jamieson, J. C.) 153
Liver tissue, human, respiration of (Booth, J., Boyland, E. & Cooling, C.) 72P
Locust, occurrence and metabolism of *scyllo*inositol in (Candy, D. J.) 666
'Lorenzan sulphates', a new group of vertebrate mucopolysaccharides (Doyle, J.) 325
Lucilia sericata, *see* Blowfly
Lymphoma 6C3HED, effect of chicken-liver asparaginase on (Ohnuma, T., Bergel, F. & Bray, R. C.) 238
Lynesterenol, metabolism of, in humans (Kamyab, S., Fotherby, K. & Wilson, G.) 14P
Lysine, biosynthesis of, by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 891
Lysine, extracellular lipopolysaccharide–phospholipid–protein complex produced by *Escherichia coli* grown in the presence of limiting concentrations of (Knox, K. W., Cullen, J. & Work, E.) 192
Lysine, relationship of 4-hydroxybenzoic acid to the formation of methionine and, in *Escherichia coli* (Jones, R. G. W. & Lascelles, J.) 709
Lysinoalanine, formation of, during the treatment of wool with alkali (Corfield, M. C., Wood, C., Robson, A., Williams, M. J. & Woodhouse, J. M.) 15C
Lysosomes, acid phospholipase A in, of bovine adrenal medulla (Blaschko, H., Smith, A. D., Winkler, H., van den Bosch, H. & van Deenen, L. L. M.) 30C
Lysosomes, hyaluronidase activity in, of bone tissue (Vaes, G.) 802
Lysosomes, influence of vitamin E deficiency and its duration on the stability of, in the kidneys of rats (Moore, T., Sharman, I. M., Stanton, M. G. & Dingle, J. T.) 923
Lysosomes, simplified method for separation of adrenal chromaffin granules from (Smith, A. D. & Winkler, H.) 480

Magnesium, effect of high dietary amounts of potassium and sodium on utilization of (Kinsella, P. V., Butler, T. M., Caffrey, P. J. & O'Connell, W.) 47P
Magnesium, effects of deficiencies of, on composition and growth rates of ascites-tumour cells in mice (Ryan, M. P., Smyth, H. & Hingerty, D.) 44P
Maize shoots, biosynthesis of the prenyl side chains of plastoquinone and related compounds in (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Maize shoots, nature, intracellular distribution and formation of terpenoid quinones in (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Maize, sterol composition in, during germination (Kemp, R. J., Goad, L. J. & Mercer, E. I.) 53P
Malate dehydrogenase systems, equilibrium constants of, in rat liver (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
L-Malate–nicotinamide–adenine dinucleotide oxidoreductase (decarboxylating), effect of diets low in fat content on the activity of, in rat tissues (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550
Maleic anhydride, reversible blocking of peptide amino groups by (Butler, P. J. G., Harris, J. I., Hartley, B. S. & Leberman, R.) 78P
Malic enzyme, *see* L-Malate–nicotinamide–adenine dinucleotide oxidoreductase (decarboxylating)
Maltase, *see* α-D-Glucosidase
Mammary gland, effect of thyroidectomy on the pattern of fatty acids synthesized by, of lactating rats (Greenbaum, A. L., Walters, E. & McLean, P.) 720
Mammary gland, lactating, rat, changes in the enzyme pattern of, after hypophysectomy and weaning (Jones, E. A.) 420
Mammary gland, metabolism of, in the lactating sow (Linzell, J. L., Mepham, T. B., Annison, E. F. & West, C. E.) 42P
Mast-cell granules, combined biochemical and morphological ultrastructure studies on (Lloyd, A. G., Bloom, G. D., Balazs, E. A. & Haegermark, Ö.) 75P
Mast-cell granules, evidence for the covalent association of heparin and protein in (Lloyd, A. G., Bloom, G. D. & Balazs, E. A.) 76P
Membrane, *Halobacterium halobium*, sedimentation, viscosity and partial specific volumes of proteins and lipoproteins from (Brown, A. D. & Netschey, A.) 24
Membranes, foetal, human, glucose metabolism by (Di-Pietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Metalloporphyrins, immunochemistry of complexes of sperm-whale apomyoglobin with (Atassi, M. Z.) 29
Methicillin, substrate-specific inactivation of staphylococcal penicillinase by (Dyke, K. G. H.) 641
[^{14}C]Methionine, incorporation of, into chromanols and quinones by *Hevea brasiliensis* latex (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C
DL-Methionine, inhibition of accumulation of [1-^{14}C]glycine and its incorporation into protein of Ehrlich ascites-carcinoma cells by (Kovačević, Z.) 535
Methionine, relationship of 4-hydroxybenzoic acid to the formation of lysine and, in *Escherichia coli* (Jones, R. G. W. & Lascelles, J.) 709
Methyl 5,6-monoepoxyretinoate, preparation, properties and metabolism of (John, K. V., Lakshmanan, M. R. & Cama, H. R.) 539
Methylaminoazobenzene, alterations in microsomal cleavage of, in carbon tetrachloride- and dimethylnitrosamine-induced liver injury (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55
3-Methylhistidine in actin and other muscle proteins (Johnson, P., Harris, C. I. & Perry, S. V.) 79P
5[^{14}C]-Methylorcylaldehyde, incorporation of, into gliorosein by *Gliocladium roseum* (Steward, M. W. & Packter, N. M.) 9P
α-*N*-Methyl-α-*N*-toluene-*p*-sulphonyl-L-lysine β-naphthyl ester, a new reagent for determining the absolute molarity of solutions of trypsin (Elmore, D. T. & Smyth, J. J.) 36P
[2-^{14}C]Mevalonic acid, incorporation of, into plastoquinone and related compounds in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Michaelis–Menten kinetics, use of the logarithmic transformation in the calculation of the transport parameters of a system obeying (Barber, H. E., Welch, B. L. & Mackay, D.) 251
Microbodies, mouse-kidney, fluorimetric determination of D-amino acid oxidase of (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
Micro-organisms, mechanisms of hydroxylations by (Evans, W. C.) 1P
Microsomal particles, protein synthesis by, from regenerating rat liver (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280
Microsome fraction, hepatic, guinea-pig, synthesis of serum glycoproteins by (Simkin, J. L. & Jamieson, J. C.) 153

Microsomes, activities of enzymes of, in relation to liver enlargement (Golberg, L., Grasso, P., Feuer, G. & Gilbert, D.) 12P
Microsomes, alterations in electron transport, oxidative *N*-demethylation and azo-dye cleavage by, in carbon tetrachloride- and dimethylnitrosamine-induced liver injury (Smuckler, E. A., Arrhenius, E. & Hultin, T.) 55
Microsomes, concentration of [1-^{3}H]cholecalciferol in, of the small intestine of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
Microsomes, effect of halogenated hydrocarbons on cytochrome *P*-450 of (McLean, A. E. M.) 13P
Microsomes, light, muscle, magnesium-dependent adenosine-triphosphatase activity in (Duggan, P. F., Ryan, B. A. & Harrington, M. G.) 45P
Microsomes, liver, changes in the chemical composition and the enzymic activities of, of the chick embryo during development (Pollak, J. K. & Ward, D. B.) 730
Microsomes, liver, induction of processing enzymes of, by substituted phenols (Gilbert, D., Golberg, L. & Gangolli, S. D.) 11P
Microsomes, liver, metabolism of diethyl 4-nitrophenyl phosphorothionate (parathion) by, *in vitro* (Neal, R. A.) 183
Microsomes, liver, role of cytochrome *P*-450 in the hydroxylation of lipid-soluble compounds in (Orrenius, S. & Ernster, L.) 3P
Microsomes, rat-liver, enzymic hydroxylation of cholesterol by (Mitton, J. R. & Boyd, G. S.) 17P
Microsomes, studies on the nature of substances bound to, involved in the biosynthesis of acidic glycoproteins of guinea-pig serum (Simkin, J. L. & Jamieson, J. C.) 38P
Milk, bovine, isolation of lipoprotein particles from, by a gel-filtration procedure (Gammack, D. B. & Gupta, B. B.) 72P
Milk, effect of pre-partum milking on secretion of (Walsh, J. P. & Downey, W. K.) 41P
Mitochondria, concentration of [1-^{3}H]cholecalciferol in, of the small intestine of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
Mitochondria, effect of chloramphenicol on, of *Polytomella caeca* (Evans, D. A. & Lloyd, D.) 22P
Mitochondria, exchange of cholesterol in (Graham, J. M. & Green, C.) 16C
Mitochondria, inducible enzymes in, of *Polytomella caeca* (Evans, D. A. & Lloyd, D.) 21P
Mitochondria, pigeon-liver, role of, in the synthesis of phosphoenolpyruvate in gluconeogenesis (Gevers, W.) 141
Mitochondria, potato, effect of respiratory inhibitors on the near-ultraviolet spectrum of (Harmey, M. A., Ikuma, H. & Bonner, W. D., jun.) 42P
Mitochondria, rat-brain, activation and solubilization of hexokinase of (Biesold, D. & Teichgräber, P.) 13C
Mitochondria, rat-liver, continuous recording technique for the measurement of carbon dioxide, and its application to oxidation and decarboxylation reactions of (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Mitochondria, rat-liver, formation of lithocholic acid, chenodeoxycholic acid and α- and β-muricholic acids from cholesterol incubated with (Mitropoulos, K. A. & Myant, N. B.) 472
Mitochondria, rat-liver, redox state of free nicotinamide–adenine dinucleotide in (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
Mitochondria, rat-liver, [^{35}S]thiosulphate oxidation by, in the presence of glutathione (Koj, A., Frendo, J. & Janik, Z.) 791
Mitochondria, reversal of phenylarsenoxide inhibition of keto acid oxidation by suspensions of, by lipoic acid and other disulphides (Armstrong, M. & Webb, M.) 913
Mitochondria, simplified method for separation of adrenal chromaffin granules from (Smith, A. D. & Winkler, H.) 480
5,6-Monoepoxyretinoic acid, preparation, properties and metabolism of (John, K. V., Lakshmanan, M. R. & Cama, H. R.) 539
L-Monoiodohistidine, use of the logarithmic transformation in the calculation of the kinetic parameters for the transport of, by rat small intestine (Barber, H. E., Welch, B. L. & Mackay, D.) 251
Moraxella lwoffii, dicarboxylic acid catabolism by (Chapman, P. J. & Duggleby, R. G.) 7C
Moraxella sp. (organism N.C.I.B. 8250), electron-transport system of (Whittaker, P. A.) 50P
Mucin of the mantle of *Pecten maximus* L. (Doyle, J.) 41P
Mucopeptide, inhibition of synthesis of, by benzylpenicillin in relation to irreversible fixation of the antibiotic by staphylococci (Rogers, H. J.) 90
Mucopolysaccharides ('lorenzan sulphates') vertebrate, a new group of (Doyle, J.) 325
Mucoproteins in the serum of the newborn piglet (Dickerson, J. W. T. & Southgate, D. A. T.) 493
α- and β-Muricholic acids, formation of, from cholesterol incubated with rat-liver mitochondria (Mitropoulos, K. A. & Myant, N. B.) 472
Musca domestica, *see* Housefly
Muscle, red and white, activities of fructose 1,6-diphosphatase, phosphofructokinase and phosphoenolpyruvate carboxykinase in (Opie, L. H. & Newsholme, E. A.) 391
Muscle, skeletal, developing, enzymes of adenine nucleotide metabolism in (Kendrick-Jones, J. & Perry, S. V.) 207
Mycobacterium smegmatis, accumulation of inorganic polyphosphate brought about by tetrahydrofurfuryl alcohol in (Winder, F. G. & Roche, H. G.) 57P
Mycobacterium smegmatis, relationship between iron deficiency, deoxyribonucleic acid content and ribonucleoside triphosphate-dependent breakdown of deoxyribonucleic acid by (Winder, F. G. & Coughlan, M. P.) 67P
Mycobacterium smegmatis, some characteristics of the ribonucleoside triphosphate-dependent system for deoxyribonucleic acid breakdown from (Winder, F. G. & Coughlan, M. P.) 59P
Mycobacterium tuberculosis, chromatographic studies of isoniazid and the lipids of (Winder, F. G. & Rooney, S. A.) 58P
Myeloma immunoglobulin A, type K and type L, investigations on the oligosaccharide units of (Clamp, J. R. & Putnam, F. W.) 225
Myoglobins, sperm-whale, artificial, immunochemistry of (Atassi, M. Z.) 29

Nasal septum, bovine, action of degradative enzymes on the light fraction of the protein–polysaccharide complex of (Luscombe, M. & Phelps, C. F.) 103
Neurospora crassa, effects of pH and temperature on the glutamate dehydrogenase of the wild-type and a mutant form of (Fincham, J. R. S. & Garner, H. R.) 705
Neurospora crassa, purification and properties of histidinol dehydrogenase from (Creaser, E. H., Bennett, D. J. & Drysdale, R. B.) 36
Nickel ions, transamination of a protein in the presence of acetate, glyoxylate and (Dixon, H. B. F.) 38P
Nicotinamide–adenine dinucleotide, free, redox state of, in the cytoplasm and mitochondria of rat liver (Williamson, D. H., Lund, P. & Krebs, H. A.) 514

Nicotinamide–adenine dinucleotide phosphate, reduced, as possible effector in catabolite repression of β-galactosidase synthesis in *Escherichia coli* (Prevost, C. & Moses, V.) 349
Nitrate, effect of, in the regulation of metabolism in facultative bacteria (Wimpenny, J. W. T. & Cole, J. A.) 20P
p-Nitrophenyl N^2-acetyl-N^1-benzylcarbazate, a new reagent for determining the absolute molarity of solutions of trypsin and chymotrypsin (Elmore, D. T. & Smyth, J. J.) 37P
Norgestrel, metabolism of, in humans (Littleton, P., Fotherby, K. & Wilson, G.) 14P
19-Norpregna-1,3,5(10)-triene-3,20α-diol, a metabolite of 3-hydroxy-19-norpregna-1,3,5(10)-trien-20-one in the rabbit (Schulster, D. & Kellie, A. E.) 759
Nuclei, concentration of [1-^{3}H]cholecalciferol in, of the small intestine of vitamin D-deficient and -supplemented rats (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
Nuclei, origin of the polydispersity in sedimentation patterns of rapidly labelled ribonucleic acid of (Bramwell, M. E. & Harris, H.) 816
Nucleic acid, virus, and interferon formation (Skehel, J. J. & Burke, D. C.) 71P
Nucleic acids, effects of aflatoxins B_1, G_1 and G_2 on the synthesis of proteins and, in rat liver (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258
Nucleoside diphosphokinase, role of, in the regulation of phosphoenolpyruvate synthesis in pigeon liver (Gevers, W.) 141
Nucleosides, purine, interaction of aflatoxins with (Clifford, J. I. & Rees, K. R.) 467
Nucleotide triphosphates, stimulation of the phosphoroclastic system of *Desulfovibrio* by (Yates, M. G.) 32C
Nucleotides, purine, studies on the nature of the regulation by, of adenine phosphoribosyltransferase and hypoxanthine phosphoribosyltransferase from Ehrlich ascites-tumour cells (Murray, A. W.) 271

Oestriol, interconversion of 16-epioestriol and, by avian liver tissue *in vitro* (Raud, H. R. & Hobkirk, R.) 724
Oligoadenylic acid, effect of ionic strength on the denaturation spectrum of (Cox, R. A. & Kanagalingam, K.) 431
Oligocytidylic acid, effect of ionic strength on the denaturation spectrum of (Cox, R. A. & Kanagalingam, K.) 431
Oligoguanylic acid, effect of ionic strength on the denaturation spectrum of (Cox, R. A. & Kanagalingam, K.) 431
Oligonucleotides, effect of ionic strength and urea concentration on the ultraviolet-absorption spectra of (Cox, R. A. & Kanagalingam, K.) 749
Oligosaccharide units containing 2-acetamido-2-deoxy-D-galactose *O*-glycosidically linked to serine in an IgA immunoglobulin (Dawson, G. & Clamp, J. R.) 5P
Oligosaccharide units, investigations on, of type K and type L immunoglobulin A (Clamp, J. R. & Putnam, F. W.) 225
Organism N.C.I.B. 8250 (*Moraxella* sp.), electron-transport system of (Whittaker, P. A.) 50P
Ovalbumins, immunologically related, thiol and disulphide contents of (Gilmore, L. A. & Fothergill, J. E.) 39P
Ovomucoid, electrophoretic properties of (Melamed, M. D.) 805
Oxaloacetate, formation of, from unnatural (—)-tartrate by fumarate hydratase (Nakamura, S. & Ogata, H.) 77P
Oxalomalate, mechanism of the inhibition of the citric acid cycle by (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19
Oxoglutarate dehydrogenase, inhibition of, by oxalomalate and γ-hydroxy-α-oxoglutarate (Ruffo, A., Testa, E., Adinolfi, A., Pelizza, G. & Moratti, R.) 19
16-Oxo-oestradiol-17β, as an intermediate in the interconversion of 16-epioestriol and oestriol by avian liver tissue *in vitro* (Raud, H. R. & Hobkirk, R.) 724

Palmitate, oxidation of, in starved, fat-fed and carbohydrate-fed rats (Mayes, P. A. & Felts, J. M.) 400
Palmitoylcarnitine, effects of the oxidation of, by rat-liver mitochondria on mitochondrial oxidation and decarboxylation reactions (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Pancreas, pig, *N*-terminus and disulphide bridges of elastase of (Brown, J. R., Kauffman, D. L. & Hartley, B. S.) 497
Paramyosin, isolation of, from *Aulacomya magellanica* (Milstein, C. P.) 634
Parathion, *see* Diethyl 4-nitrophenyl phosphorothionate
Patella vulgata, *see* Limpet
Pecten maximus L., mantle mucin of (Doyle, J.) 41P
Penicillin N, biosynthesis of cephalosporin C and, by a *Cephalosporium* sp. (Smith, B., Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 877
Penicillin, inhibition of mucopeptide synthesis by, in relation to irreversible fixation of the antibiotic by staphylococci (Rogers, H. J.) 90
Penicillin N, role of valine in the biosynthesis of cephalosporin C and, by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 902
Penicillin N, use of α-aminoadipic acid for the biosynthesis of cephalosporin C and, by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 891
Penicillinase, staphylococcal, substrate-specific inactivation of (Dyke, K. G. H.) 641
Penicillium jenseni, conversion of *o*-coumaric acid into dicoumarol by (Bellis, D. M., Spring, M. S. & Stoker, J. R.) 202
Pentose phosphate cycle, activity of, in relation to catabolite repression of β-galactosidase synthesis in *Escherichia coli* (Prevost, C. & Moses, V.) 349
Peptidases and proteinases, brain, separation of (Marks, N.) 40P
Peptides, as intermediates in the biosynthesis of penicillin N and cephalosporin C by a *Cephalosporium* sp. (Smith, B., Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 877
Periodate, hydrolysis of pregnanediol glucuronide by (Wade, A. P.) 19C
Peroxisomes, mouse-kidney, fluorimetric determination of D-amino acid oxidase of (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
pH, alkaline, binding of inhibitors to α-chymotrypsin at (Johnson, C. H. & Knowles, J. R.) 428
pH, effect of, on the labelling of ox insulin with ^{131}I by the iodine monochloride method (Glover, J. S., Salter, D. N. & Shepherd, B. P.) 120
pH, effects of temperature and, on the wild-type and a mutant form of *Neurospora crassa* glutamate dehydrogenase (Fincham, J. R. S. & Garner, H. R.) 705
pH, influence of, on the hydrolysis of different substrates by rat small-intestinal β-galactosidases (Dahlqvist, A. & Asp, N. G.) 86
Pharynx, pig, protein–polysaccharide complexes of the cartilage of (Muir, H. & Jacobs, S.) 367
Phenols, substituted, induction of liver microsomal processing enzymes by (Gilbert, D., Golberg, L. & Gangolli, S. D.) 11P
Phenylalanine, ability of two classes of rat-liver ribosomes to effect the polyuridylic acid-directed incorporation of, into protein *in vitro* (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177

Phenylalanine 4-hydroxylase, studies on the inhibition of tryptophan 5-hydroxylase and, of rat liver (Coulson, W. F., Wardle, E. & Jepson, J. B.) 15P
Phenylarsenoxide, reversal of inhibition by, of keto acid oxidation in mitochondrial and bacterial suspensions by lipoic acid and other disulphides (Armstrong, M. & Webb, M.) 913
o-Phenylenediamine, fluorimetric determination of D-amino acid oxidase, depending on the formation of 2-hydroxy-3-methylquinoxaline on condensation of pyruvate with (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
Phosphatase, alkaline, regulatory process in the de-repression of the synthesis of, in *Bacillus subtilis* (Moses, V.) 650
Phosphatase, alkaline, stability of, in non-growing cells of *Escherichia coli* (Willetts, N. S.) 453
Phosphate, conjugation of phenols with, in grass grubs and flies (Binning, A., Darby, F. J., Heenan, M. P. & Smith, J. N.) 42
Phosphate, evidence for the donation of, by substrate to the enzyme in the phosphoglucomutase reaction (Britton, H. G.) 7P
Phosphatidylethanolamine, analysis of, of walls and extracellular lipopolysaccharide–phospholipid–protein complex of *Escherichia coli* (Knox, K. W., Cullen, J. & Work, E.) 192
Phosphoenolpyruvate carboxykinase, activity of, in white muscle and red muscle (Opie, L. H. & Newsholme, E. A.) 391
Phosphoenolpyruvate carboxykinase, role of, in the regulation of phosphoenolpyruvate synthesis in pigeon liver (Gevers, W.) 141
Phosphoenolpyruvate, regulation of the synthesis of, in pigeon liver (Gevers, W.) 141
Phosphofructokinase, activity of, in white muscle and red muscle (Opie, L. H. & Newsholme, E. A.) 391
Phosphofructokinase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420
Phosphoglucomutase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420
Phosphoglucomutase, evidence for donation of phosphate by substrate to the enzyme in the reaction catalysed by (Britton, H. G.) 7P
6-Phosphogluconate dehydrogenase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420
Phospholipase A, acid, in lysosomes of bovine adrenal medulla (Blaschko, H., Smith, A. D., Winkler, H., van den Bosch, H. & van Deenen, L. L. M.) 30C
Phospholipid, changes in the concentration of, in hepatic microsomes of the chick embryo during development (Pollak, J. K. & Ward, D. B.) 730
Phospholipid–protein–lipopolysaccharide complex, extracellular, produced by *Escherichia coli* grown under lysine-limiting conditions (Knox, K. W., Cullen, J. & Work, E.) 192
Phospholipids, effect of cadmium injury on fatty acids of, of rat testis, compared with the effects of vitamin E deficiency (Lee, D. J. W. & Barnes, M. McC.) 30P
Phospholipids in prealbumin fraction of human serum (Jevons, S. & Glover, J.) 30P
Phospholipids, synthesis and utilization of, by the isolated perfused rat heart (Olson, R. E. & Hoeschen, R. J.) 796
Phosphopyruvate carboxylase, activity and intracellular distribution of, in tropical grass leaves (Slack, C. R. & Hatch, M. D.) 660
Phosphorylation, respiration-dependent, effect of carbonyl cyanide *m*-chlorophenylhydrazone on respiration and, in *Escherichia coli* (Cavari, B. Z., Avi-Dor, Y. & Grossowicz, N.) 601
Photosynthesis, comparative studies on the activity of carboxylases and other enzymes in relation to the new pathway of carbon dioxide fixation by, in tropical grasses (Slack, C. R. & Hatch, M. D.) 660
Phthaleins, species differences in the inhibition of glutathione *S*-aryltransferase by dicarboxylic acids and (Clark, A. G., Darby, F. J. & Smith, J. N.) 49
Phylloquinone, biosynthesis of prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Phylloquinone, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
Phylloquinone, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Pisum arvense, degradation of ribonucleic acid in cotyledons of (Barker, G. R. & Hollinshead, J. A.) 230
Pituitary gland, anterior, ox, measurement of growth hormone released by slices of, *in vitro* (Schofield, J. G.) 331
Placenta, human, glucose metabolism by the villi of (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Placenta, human, purification and properties of histaminase from (Smith, J. K.) 110
Plants, stereochemistry of α-oxidation of fatty acids in (Hitchcock, C., James, A. T. & Morris, L. J.) 8P
Plants, studies on β-D-xylosidases of (Manners, D. J. & Mitchell, J. P.) 43P
Plasma, adenylate kinase of human erythrocytes, platelets and, in relation to the degradation of adenosine diphosphate in plasma (Haslam, R. J. & Mills, D. C. B.) 773
Plasma, exchange of cholesterol in (Graham, J. M. & Green, C.) 16C
Plasmalogens, biosynthesis of, from glycerol ethers (Malins, D. C.) 29P
Plastoquinone, biosynthesis of prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Plastoquinone, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
Plastoquinone, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Platelets, adenylate kinase of human plasma, erythrocytes and, in relation to the degradation of adenosine diphosphate in plasma (Haslam, R. J. & Mills, D. C. B.) 773
Polyadenylic acid, effect of ionic strength and urea concentration on the ultraviolet-absorption spectrum of (Cox, R. A. & Kanagalingam, K.) 749
Polyamines, interaction of, with deoxyribonucleic acid and with bacterial protoplasts (Stevens, L.) 811
Polynucleotide phosphorylase, structure and mechanism of action of (Grunberg-Manago, M.) 62P
Polyphosphate, inorganic, accumulation of, brought about by tetrahydrofurfuryl alcohol in *Mycobacterium smegmatis* (Winder, F. G. & Roche, H. G.) 57P
Polyribosomes, changes in, during compensatory renal hypertrophy (Halliburton, I. W.) 65P
Polyribosomes, isolation and properties of fragments of the endoplasmic reticulum and, from rat liver (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Polysaccharide–protein complex, action of degradative enzymes on the light fraction of, of bovine nasal septa (Luscombe, M. & Phelps, C. F.) 103
Polysaccharide–protein complexes of pig pharyngeal cartilage (Muir, H. & Jacobs, S.) 367
Polysomes, presence of, in regenerating rat liver (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280

Polysomes, rat-liver, amino acid deficiency and stability of (Wunner, W. H.) 71P
Polysomes, rat-liver, effect of a single intraperitoneal dose of the hepatocarcinogen 4-dimethylaminoazobenzene on (Ketterer, B., Holt, S. J. & Ross-Mansell, P.) 692
Polysomes, rat-liver, stability of (Wilson, S. H. & Hoagland, M. B.) 556
Polysomes, stable, rat-liver, protein synthesis by (Wilson, S. H., Hill, H. Z. & Hoagland, M. B.) 567
Polytomella caeca, effect of chloramphenicol on the mitochondria of (Evans, D. A. & Lloyd, D.) 22P
Polytomella caeca, inducible enzymes in mitochondria of (Evans, D. A. & Lloyd, D.) 21P
Polyuridylic acid–polyadenylic acid complex, effect of ionic strength and urea concentration on the ultraviolet-absorption spectrum of (Cox, R. A. & Kanagalingam, K.) 749
Porphyrins, modified, immunochemistry of complexes of sperm-whale apomyoglobin with (Atassi, M. Z.) 29
Potassium, effect of high dietary amounts of sodium and, on utilization of magnesium (Kinsella, P. V., Butler, T. M., Caffrey, P. J. & O'Connell, W.) 47P
Potassium, effects of deficiencies of, on composition and growth rates of ascites-tumour cells in mice (Ryan, M. P., Smyth, H. & Hingerty, D.) 44P
Potassium ions, effects of sodium ions and, on glycine uptake by mouse ascites-tumour cells in the presence and absence of selected metabolic inhibitors (Eddy, A. A., Mulcahy, M. F. & Thomson, P. J.) 863
Potassium, relaxing factor and the effect of (Duggan, P. F.) 45P
Potato, effect of respiratory inhibitors on the near-ultraviolet spectrum of mitochondria of (Harmey, M. A., Ikuma, H. & Bonner, W. D., jun.) 42P
Pregnanediol glucuronide, hydrolysis of, by sodium periodate (Wade, A. P.) 19C
Prenyl side chains, biosynthesis of, of plastoquinone and related compounds in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Propionate, contribution of, to glucose synthesis in sheep (Leng, R. A., Steel, J. W. & Luick, J. R.) 785
Proteases, action of, on the light fraction of protein–polysaccharide complex of bovine nasal septa (Luscombe, M. & Phelps, C. F.) 103
Protein, ability of two classes of rat-liver ribosomes to effect the incorporation of amino acids during the biosynthesis of, *in vivo* and *in vitro* (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Protein, acidic, purification and properties of, from chromaffin granules of bovine adrenal medulla (Smith, A. D. & Winkler, H.) 483
Protein, carcinogen-binding, isolation of, from livers of rats given 4-dimethylaminoazobenzene (Ketterer, B., Ross-Mansell, P. & Whitehead, J. K.) 316
Protein, effect of aging of plant storage-tissue disks on the synthesis of, by a cell-free fraction (Chapman, J. M. & Edelman, J.) 68P
Protein, inhibition of accumulation of [1-^{14}C]glycine and its incorporation into, of Ehrlich ascites-carcinoma cells by DL-methionine (Kovačević, Z.) 535
Protein, intracellular breakdown of, in growing cells of *Escherichia coli* (Willetts, N. S.) 462
Protein, intracellular breakdown of, in non-growing cells of *Escherichia coli* (Willetts, N. S.) 453
Protein–lipopolysaccharide–phospholipid complex, extracellular, produced by *Escherichia coli* grown under lysine-limiting conditions (Knox, K. W., Cullen, J. & Work, E.) 192
Protein–polysaccharide complex, action of degradative enzymes on the light fraction of, of bovine nasal septa (Luscombe, M. & Phelps, C. F.) 103
Protein–polysaccharide complexes of pig laryngeal cartilage (Muir, H. & Jacobs, S.) 367
Protein, synthesis of, by stable rat-liver polysomes (Wilson, S. H., Hill, H. Z. & Hoagland, M. B.) 567
Protein, transamination of, in the presence of acetate, glyoxylate and nickel ions (Dixon, H. B. F.) 38P
Proteinases and peptidases, brain, separation of (Marks, N.) 40P
Proteins, effects of aflatoxins B_1, G_1 and G_2 on the synthesis of nucleic acids and, in rat liver (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258
Proteins, protein-bound carbohydrates and, of the serum of the developing pig (Dickerson, J. W. T. & Southgate, D. A. T.) 493
Proteins, sedimentation, viscosity and partial specific volumes of, from the membrane of *Halobacterium halobium* (Brown, A. D. & Netschey, A.) 24
Proteins, serum, patterns of, during 2-acetamidofluorene-induced carcinogenesis in the rat (Narayan, K. A.) 672
Proteins, synthesis of, by microsomal particles from regenerating rat liver (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280
Proteins, system synthesizing, of dormant seeds (Rieber, M.) 64P
Protoplasts, bacterial, interaction of homologues of spermine with deoxyribonucleic acid and with (Stevens, L.) 811
Protoplasts, tomato-fruit, isolated, cell-wall regeneration by (Pojnar, E. & Cocking, E. C.) 74P
Protoplasts, tomato-fruit, isolated, pinocytic uptake of ferritin by (DeLeo, P. & Cocking, E. C.) 9P
Pseudomonas aeruginosa, dicarboxylic acid catabolism by (Chapman, P. J. & Duggleby, R. G.) 7C
Pseudomonas sp. M27, prosthetic group of the alcohol dehydrogenase of (Anthony, C. & Zatman, L. J.) 19P
Purine nucleotides, studies on the nature of the regulation by, of adenine phosphoribosyltransferase and of hypoxanthine phosphoribosyltransferase from Ehrlich ascites-tumour cells (Murray, A. W.) 271
Purines and purine nucleosides, interaction of aflatoxins with (Clifford, J. I. & Rees, K. R.) 467
Pyruvate, effect of, on hexose metabolism by *Escherichia coli* (Morgan, M. J. & Kornberg, H. L.) 57P
Pyruvate, effect of the oxidation of palmitoylcarnitine by rat-liver mitochondria on the mitochondrial oxidation and decarboxylation of (Nicholls, D. G., Shepherd, D. & Garland, P. B.) 677
Pyruvate, fluorimetric determination of D-amino acid oxidase, depending on the formation of 2-hydroxy-3-methylquinoxaline on condensation of *o*-phenylenediamine with (Verity, M. A., Gallagher, R. & Brown, W. J.) 375
Pyruvate kinase, effect of diets low in fat content on the activity of, in rat tissues (Bartley, W., Dean, B., Taylor, C. B. & Bailey, E.) 550
Pyruvate kinase, role of, in the regulation of phosphoenolpyruvate synthesis in pigeon liver (Gevers, W.) 141
Pyruvate, reversal of phenylarsenoxide inhibition of the oxidation of, in mitochondrial and bacterial suspensions by lipoic acid and other disulphides (Armstrong, M. & Webb, M.) 913

Quail, Japanese, properties of glutamate dehydrogenases from several tissues of (Freedland, R. A., Martin, K. D. & McFarland, L. Z.) 6P
Quinacillin, substrate-specific inactivation of staphylococcal penicillinase by (Dyke, K. G. H.) 641
Quinones, incorporation of [^{14}C]methionine into chromanols and, by *Hevea brasiliensis* latex (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C

Quinones, terpenoid, biosynthesis of the prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Quinones, terpenoid, nature, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
Quinones, terpenoid, nature, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589

Relaxing factor and the effect of potassium (Duggan, P. F.) 45P
Respiration, effect of carbonyl cyanide *m*-chlorophenylhydrazone on, and respiration-dependent phosphorylation in *Escherichia coli* (Cavari, B. Z., Avi-Dor, Y. & Grossowicz, N.) 601
Reticulocytes, study of the hydrolysis of unfractionated ribosomal ribonucleic acid of, by pancreatic ribonuclease and its relevance to secondary structure (Cox, R. A. & Kanagalingam, K.) 431
Reticulum, endoplasmic, isolation and properties of polyribosomes and fragments of, from rat liver (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Reticulum, endoplasmic, rough-surfaced, effect of a single intraperitoneal dose of the hepatocarcinogen 4-dimethylaminoazobenzene on, of the liver of the rat (Ketterer, B., Holt, S. J. & Ross-Mansell, P.) 692
Retinaldehyde epoxides, light-sensitive pigments formed from (Lewin, D. R. & Thompson, J. N.) 36P
Retinoic acid, distribution of low doses of, in the rat (Morgan, B. & Thompson, J. N.) 35P
Retinol, interactions of, with donors and acceptors of electrons (Lichti, F. U. & Lucy, J. A.) 34P
retro-Retinyl acetate, metabolism and biological potency of, in the rat (John, K. V., Lakshmanan, M. R. & Cama, H. R.) 544
Retinyl acetate, retinol and retinyl esters in rats given small amounts of (Coward, W. A. & Thompson, J. N.) 35P
Ribonuclease, degradation of ribonucleic acid by, in cotyledons of *Pisum arvense* (Barker, G. R. & Hollinshead, J. A.) 230
Ribonuclease, pancreatic, bovine, mechanism of action of (Mathias, A. P. & Rabin, B. R.) 62P
Ribonuclease, pancreatic, study of the hydrolysis of unfractionated reticulocyte ribosomal ribonucleic acid by, and its relevance to secondary structure (Cox, R. A. & Kanagalingam, K.) 431
Ribonucleic acid, degradation of, in cotyledons of *Pisum arvense* (Barker, G. R. & Hollinshead, J. A.) 230
Ribonucleic acid, effect of α-amanitin on the synthesis of, and on ribonucleic acid polymerase in mouse liver (Stirpe, F. & Fiume, L.) 67P
Ribonucleic acid, effects of aflatoxins B_1, G_1 and G_2 on the synthesis of protein and, in rat liver (Clifford, J. I., Rees, K. R. & Stevens, M. E. M.) 258
Ribonucleic acid, messenger, stability of ribosomes and, in rat liver (Wilson, S. H. & Hoagland, M. B.) 556
Ribonucleic acid, rapidly ^{14}C-labelled, effect of 'soluble' ribonucleic acid on the binding of, to ribosomes (Perzyński, S. & Szafrański, P.) 1C
Ribonucleic acid, rapidly labelled, nuclear, origin of the polydispersity in sedimentation patterns of (Bramwell, M. E. & Harris, H.) 816
Ribonucleic acid, ribosomal, polynucleotide species distributions in, of *Escherichia coli* (Midgley, J. E. M. & McIlreavy, D. J.) 50P
Ribonucleic acid, ribosomal, reticulocyte, unfractionated, study of the hydrolysis of, by pancreatic ribonuclease and its relevance to secondary structure (Cox, R. A. & Kanagalingam, K.) 431
Ribonucleic acid, 'soluble', effect of, on the binding of rapidly ^{14}C-labelled ribonucleic acid to ribosomes (Perzyński, S. & Szafrański, P.) 1C
Ribonucleic acid, some thoughts and speculations on the synthesis of (Smellie, R. M. S.) 61P
Ribonucleic acid, spectrophotometric study of the secondary structure of, based on a method for diminishing single-stranded base-'stacking' without affecting multi-helical structures (Cox, R. A. & Kanagalingam, K.) 749
Ribonucleic acid, transfer, molecular processes involved in the maturation of, of mammalian cells (Burdon, R. H., Martin, B. T. & Lal, B. M.) 69P
Ribonucleic acid, transfer, new, in BHK 21/C13 cells infected with herpes virus (Hay, J., Subak-Sharpe, H. & Shepherd, W. M.) 69P
Ribonucleic acids, 'soluble', electrophoresis in polyacrylamide gels of different preparations of, from *Escherichia coli* (Cannon, M. & Richards, E. G.) 23C
Ribonucleotides, relation of hydrogen exchange between deoxyadenosylcobalamin and water to the role of the coenzyme in the reduction of (Hogenkamp, H. P. C., Ghambeer, R. K., Brownson, C. & Blakley, R. L.) 5C
Ribosomes, effect of 'soluble' ribonucleic acid on the binding of rapidly ^{14}C-labelled ribonucleic acid to (Perzyński, S. & Szanfrański, P.) 1C
Ribosomes from the blue–green alga *Anabaena variabilis* (Craig, I. W. & Carr, N. G.) 64P
Ribosomes, isolation and properties of two classes of, from rat liver (Bloemendal, H., Bont, W. S., de Vries, M. & Benedetti, E. L.) 177
Ribosomes, membrane-bound, protein synthesis by, in regenerating rat liver (Campbell, P. N., Lowe, E. & Serck-Hanssen, G.) 280
Ribosomes, polynucleotide species distributions in ribonucleic acid of, of *Escherichia coli* (Midgley, J. E. M. & McIlreavy, D. J.) 50P
Ribosomes, reticulocyte, study of the hydrolysis of unfractionated ribonucleic acid of, by pancreatic ribonuclease and its relevance to secondary structure (Cox, R. A. & Kanagalingam, K.) 431
Ribosomes, stability of messenger ribonucleic acid and, in rat liver (Wilson, S. H. & Hoagland, M. B.) 556
Ribulose diphosphate carboxylase, activity of, in tropical grass leaves (Slack, C. R. & Hatch, M. D.) 660

Saccharomyces cerevisiae, biosynthesis of ergosterol in whole cells of (Akhtar, M., Hunt, P. F. & Parvez, M. A.) 616
Saccharomyces cerevisiae, characteristic pattern of respiratory enzymes in cytoplasmic 'petite' strains of, as revealed by multiple enzyme analysis (Roodyn, D. B. & Wilkie, D.) 3C
Seeds, dormant, protein-synthesizing system of (Rieber, M.) 64P
Selenium isotope (^{75}Se), use of, as an indicator for sulphur compounds (Schoental, R.) 27P
Semicarbazide, action of, on the aggregation of the tropocollagen macromolecule (Convy, S. & Wynn, C. H.) 413
Septum, nasal, bovine, action of degradative enzymes on the light fraction of protein–polysaccharide complex of (Luscombe, M. & Phelps, C. F.) 103
D-Serine deaminase, stability of, in non-growing cells of *Escherichia coli* (Willetts, N. S.) 453
Serine, glyoxylate and, in the biosynthesis of chloroplast terpenoids (Shah, S. P. J., Rogers, L. J. & Goodwin, T. W.) 52P
Serine, oligosaccharide units containing 2-acetamido-2-deoxy-D-galactose *O*-glycosidically linked to, in an IgA immunoglobulin (Dawson, G. & Clamp, J. R.) 5P
Serum, guinea-pig, comparison of the properties and antilymphoma effects of asparaginase obtained from chicken liver and from (Ohnuma, T., Bergel, F. & Bray, R. C.) 238

Serum, guinea-pig, studies on the site of biosynthesis of acidic glycoproteins of (Simkin, J. L. & Jamieson, J. C.) 153
Serum, lipoproteins of, during 2-acetamidofluorene-induced carcinogenesis in the rat (Narayan, K. A.) 672
Serum, proteins and protein-bound carbohydrates of, of the developing pig (Dickerson, J. W. T. & Southgate, D. A. T.) 493
Sialomucopolysaccharides, distribution of, in subcellular fractions of rat brain (Brunngraber, E. G., Dekirmenjian, H. & Brown, B. D.) 73
Sialomucopolysaccharides, preparation and properties of, from rat brain (Brunngraber, E. G. & Brown, B. D.) 65
Sodium, effect of high dietary amounts of potassium and, on utilization of magnesium (Kinsella, P. V., Butler, T. M., Caffrey, P. J. & O'Connell, W.) 47P
Sodium ions, effects of potassium ions and, on glycine uptake by mouse ascites-tumour cells in the presence and absence of selected metabolic inhibitors (Eddy, A. A., Mulcahy, M. F. & Thomson, P. J.) 863
Sodium, localization of, in normal and sodium-rich sartorius muscle (Herlihy, E., Conway, E. J. & Harrington, M. G.) 46P
Sodium periodate, hydrolysis of pregnanediol glucuronide by (Wade, A. P.) 19C
Sperm whale, immunochemistry of artificial myoglobins prepared from the apomyoglobin of (Atassi, M. Z.) 29
Spermine, interaction of homologues of, with deoxyribonucleic acid and with bacterial protoplasts (Stevens, L.) 811
Squalus acanthias, chemical nature of the jelly from the glands of Lorenzini of (Doyle, J.) 325
Staphylococcus aureus, inhibition of mucopeptide synthesis by benzylpenicillin in relation to irreversible fixation of the antibiotic by (Rogers, H. J.) 90
Staphylococcus aureus, substrate-specific inactivation of the penicillinase of (Dyke, K. G. H.) 641
Starvation, effect of, on oxidative metabolism in the rat (Mayes, P. A. & Felts, J. M.) 400
Starvation, effect of, on the citrate content of liver and kidney of the rat (Spencer, A. F. & Lowenstein, J. M.) 342
Starvation, effect of, on the redox state of free nicotinamide–adenine dinucleotide in rat-liver mitochondria (Williamson, D. H., Lund, P. & Krebs, H. A.) 514
Steroid drugs, effect of, on biliary secretion (Heikel, T. A. J.) 63P
Steroids, biosynthesis of, *in vitro* by adrenal tissue from a newborn anencephalic infant (Shahwan, M. M., Oakey, R. E. & Stitch, S. R.) 15P
Steroids, hydroxylation of, and the cholesterol side-chain cleavage system in rat ovary (Sulimovici, S. & Boyd, G. S.) 16P
Steroids, hydroxylation of, in the adrenal cortex and the cholesterol side-chain cleavage system (Simpson, E. R. & Boyd, G. S.) 17P
Steroids, hydroxylations and inhibitions of hydroxylations of (Grant, J. K.) 3P
Steroids, metabolism of, in carbon tetrachloride-induced liver damage (Beary, M. E.) 54P
Sterols, binding of, in cellular membranes (Graham, J. M. & Green, C.) 16C
Sterols, composition of, in maize during germination (Kemp, R. J., Goad, L. J. & Mercer, E. I.) 53P
Succinate, replacement of 4-hydroxybenzoic acid requirement by, in *Escherichia coli* mutant (Jones, R. G. W. & Lascelles, J.) 709
Succinylsulphathiazole, differences in the biliary excretion of, in the rat and rabbit (Abou-El-Makarem, M. M., Millburn, P., Smith, R. L. & Williams, R. T.) 25P
Sugar phosphates, pool sizes of, in relation to catabolite repression of β-galactosidase synthesis in *Escherichia coli* (Prevost, C. & Moses, V.) 349
Sulphamethomidine, N^1-glucuronide formation in primates given (Bridges, J. W., Walker, S. R. & Williams, R. T.) 23P
Sulphate, formation of, from thiosulphate by rat-liver mitochondria in the presence of glutathione (Koj, A., Frendo, J. & Janik, Z.) 791
Sulphite, effect of iodination of insulin on the reactivity of the inter-chain disulphide bonds towards (Rosa, U., Massaglia, A., Pennisi, F., Cozzani, I. & Rossi, C. A.) 407
Sulphite reductase of yeast (Wainwright, T.) 56P
Sulphur compounds, use of radioactive selenium isotope (^{75}Se) as an indicator for (Schoental, R.) 27P
Synaptosomes, 'compartmentation' of choline acetyltransferase within (Fonnum, F.) 262

Temperature, effects of pH and, on the wild-type and a mutant form of *Neurospora crassa* glutamate dehydrogenase (Fincham, J. R. S. & Garner, H. R.) 705
Terpenoid quinones, nature, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
Terpenoid quinones, nature, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Terpenoids, chloroplast, glyoxylate and serine in the biosynthesis of (Shah, S. P. J., Rogers, L. J. & Goodwin, T. W.) 52P
Tetrachlorosalicylanilide, mechanism of the bacteriostatic action of (Hamilton, W. A.) 73P
Tetrahydrofurfuryl alcohol, accumulation of inorganic polyphosphate brought about by, in *Mycobacterium smegmatis* (Winder, F. G. & Roche, H. G.) 57P
[^{14}C]Thalidomide, fate of, in the pregnant hamster (Fabro, S., Hague, D. & Smith, R. L.) 26P
Thiol and disulphide contents of immunologically related ovalbumins (Gilmore, L. A. & Fothergill, J. E.) 39P
Thiol, studies on the content of, of bovine adenosine deaminase (Murphy, P. M.) 48P
[^{35}S]Thiosulphate, oxidation of, by rat-liver mitochondria in the presence of glutathione (Koj, A., Frendo, J. & Janik, Z.) 791
L-Threonine, role of aminoacetone in the metabolism of, by *Bacillus subtilis* (Rahhal, D. A., Turner, J. M. & Willetts, A. J.) 73P
Thymine, exogenous, utilization of, by *Escherichia coli* (Stacey, K. A.) 68P
Thymol, sequence of hydroxylations during the metabolism of (Chamberlain, E. M., Chapman, P. J. & Dagley, S.) 18P
Thyroidectomy, effect of, on the pattern of fatty acids synthesized by mammary gland of lactating rats (Greenbaum, A. L., Walters, E. & McLean, P.) 720
α-Tocopherol, biosynthesis of, by *Hevea brasiliensis* latex (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C
α-Tocopherol, biosynthesis of prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
α-Tocopherol, effect of administration of, on erythrocyte survival in vitamin E-deficient subjects (Leonard, P. J. & Losowsky, M. S.) 51P
α-Tocopherol, effect of, on the stability of lysosomes in the kidneys of rats (Moore, T., Sharman, I. M., Stanton, M. G. & Dingle, J. T.) 923
α-Tocopherol, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
α-Tocopherol, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589

α-Tocopherolquinone, biosynthesis of prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
α-Tocopherolquinone, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
α-Tocopherolquinone, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Tocotrienols, biosynthesis of, by *Hevea brasiliensis* latex (Whittle, K. J., Audley, B. G. & Pennock, J. F.) 21C
Tomato fruit, cell-wall regeneration by isolated protoplasts of (Pojnar, E. & Cocking, E. C.) 74P
Trachea, bovine, effects of chondroitin sulphate of, on mineralization *in vitro* (Bowness, J. M. & Lee, K. H.) 382
Transport parameters, use of the logarithmic transformation in the calculation of, of a system that obeys Michaelis–Menten kinetics (Barber, H. E., Welch, B. L. & Mackay, D.) 251
1,1,1-Trichloro-2,2-bis-(*p*-chlorophenyl)ethane (DDT), biochemical investigations into the effect of, on barley (Lawler, P. D. & Rogers, L. J.) 44P
Triglycerides, metabolism of, by the isolated perfused rat heart (Olson, R. E. & Hoeschen, R. J.) 796
Tropocollagen, action of semicarbazide on the aggregation of (Convy, S. & Wynn, C. H.) 413
Tropomyosin A, isolation of, from *Aulacomya magellanica* (Milstein, C. P.) 634
Trypsin, α-*N*-methyl-α-*N*-toluene-*p*-sulphonyl-L-lysine β-naphthyl ester as a new reagent for determining the absolute molarity of solutions of (Elmore, D. T. & Smyth, J. J.) 36P
Trypsin, *p*-nitrophenyl N^2-acetyl-N^1-benzylcarbazate as a new reagent for determining the absolute molarity of solutions of (Elmore, D. T. & Smyth, J. J.) 37P
Tryptophan 5-hydroxylase, studies on the inhibition of phenylalanine 4-hydroxylase and, of rat liver (Coulson, W. F., Wardle, E. & Jepson, J. B.) 15P
Tryptophan pyrrolase, effect of copper deficiency on the induction of, in chick liver by hydrocortisone (Kim, C. S. & Hill, C. H.) 256

Ubiquinone, biosynthesis of prenyl side chains of, in maize and barley shoots (Threlfall, D. R., Griffiths, W. T. & Goodwin, T. W.) 831
Ubiquinone, deficiency of, in an auxotroph of *Escherichia coli* requiring 4-hydroxybenzoic acid (Jones, R. G. W.) 714
Ubiquinone, intracellular distribution and formation of, in *Euglena gracilis* (Threlfall, D. R. & Goodwin, T. W.) 573
Ubiquinone, intracellular distribution and formation of, in maize and barley shoots (Griffiths, W. T., Threlfall, D. R. & Goodwin, T. W.) 589
Urea, effect of the concentration of, on the ultraviolet-absorption spectra of oligonucleotides (Cox, R. A. & Kanagalingam, K.) 749
Uridine diphosphate glucose pyrophosphorylase, changes in the activity of, in the mammary gland of the lactating rat after hypophysectomy and weaning (Jones, E. A.) 420
Urine, human, some properties of lactate dehydrogenase found in (Plummer, D. T. & Leathwood, P. D.) 172
Urine, hydrolysis of pregnanediol glucuronide in, by sodium periodate (Wade, A. P.) 19C

Valine, role of, in the biosynthesis of penicillin N and cephalosporin C by a *Cephalosporium* sp. (Warren, S. C., Newton, G. G. F. & Abraham, E. P.) 902
Vibrio OI, *see Moraxella lwoffii*
Villi, placental, human, glucose metabolism by (DiPietro, D. L., Gutierrez-Correa, J. & Thaidigsman, J. H.) 246
Virus, nucleic acid of, and interferon formation (Skehel, J. J. & Burke, D. C.) 71P
Vitamin A activity of 5,6-monoepoxyretinoic acid and its methyl ester (John, K. V., Lakshmanan, M. R. & Cama, H. R.) 539
Vitamin A, conversion of *retro*-retinyl acetate into, in the rat (John, K. V., Lakshmanan, M. R. & Cama, H. R.) 544
Vitamin A, effects of a lipid peroxide on (O'Brien, P. J.) 32P
Vitamin A, reactions of, with iodine (Lucy, J. A. & Lichti, F. U.) 34P
Vitamin D, intracellular distribution of [1-^{3}H]cholecalciferol in the small intestine of rats deficient in or supplemented with (Wilson, P. W., Lawson, D. E. M. & Kodicek, E.) 165
Vitamin E, effect of cadmium injury on phospholipid fatty acids of rat testis, compared with the effects of deficiency of (Lee, D. J. W. & Barnes, M. McC.) 30P
Vitamin E, effect of α-tocopherol administration on erythrocyte survival in subjects deficient in (Leonard, P. J. & Losowsky, M. S.) 51P
Vitamin E, effects of a lipid peroxide on (O'Brien, P. J. & Titmus, G.) 33P
Vitamin E, influence of deficiency of, and its duration on the stability of lysosomes in the kidneys of rats (Moore, T., Sharman, I. M., Stanton, M. G. & Dingle, J. T.) 923

Weaning, changes in the enzyme pattern of the mammary gland of the lactating rat after (Jones, E. A.) 420
Wool, formation of lysinoalanine during the treatment of, by alkali (Corfield, M. C., Wood, C., Robson, A., Williams, M. J. & Woodhouse, J. M.) 15C

Xanthine oxidase, Mössbauer evidence on the form of iron in (Johnson, C. E., Knowles, P. F. & Bray, R. C.) 10C
β-D-Xylosidases, plant, studies on (Manners, D. J. & Mitchell, J. P.) 43P

Yeast, effect of some growth conditions on the carbohydrate composition of a glycogen-deficient mutant of (Chester, V. E.) 55P
Yeast, sulphite reductase of (Wainwright, T.) 56P

Zinc, requirement for, by a β-lactamase from *Bacillus cereus* 569/H (Kuwabara, S. & Abraham, E. P.) 27C

L

S

P

MI

The Biochemical Journal

Volume 103, 1967

The Biochemical Journal

Editorial Board

W. N. Aldridge (Chairman)
H. Gutfreund (Deputy Chairman)
V. P. Whittaker (Deputy Chairman)
J. R. Quayle (Deputy Chairman)
J. L. Bailey
R. V. Brooks
R. H. Burdon
R. A. Cox
M. J. Crumpton
D. F. Elliott
J. R. S. Fincham
J. N. Hawthorne
J. R. Knowles
P. N. Magee
D. J. Manners
J. H. Moore
C. J. O. R. Morris
I. H. M. Muir
C. A. Pasternak
A. R. Peacocke
H. R. Perkins
R. R. Porter
E. R. Redfearn
D. N. Rhodes
D. S. Robinson
D. B. Roodyn
R. E. Strange
J. R. Tata
P. K. Tubbs
D. G. Walker

Secretary to the Board: **F. Clark**

London: The Biochemical Society

Published by
THE BIOCHEMICAL SOCIETY, 20 PARK CRESCENT, LONDON, W.1
and distributed for the Society by
THE CHEMICAL SOCIETY, BURLINGTON HOUSE, PICCADILLY,
LONDON, W.1

Printed in Great Britain by Spottiswoode, Ballantyne & Co. Ltd.,
London and Colchester